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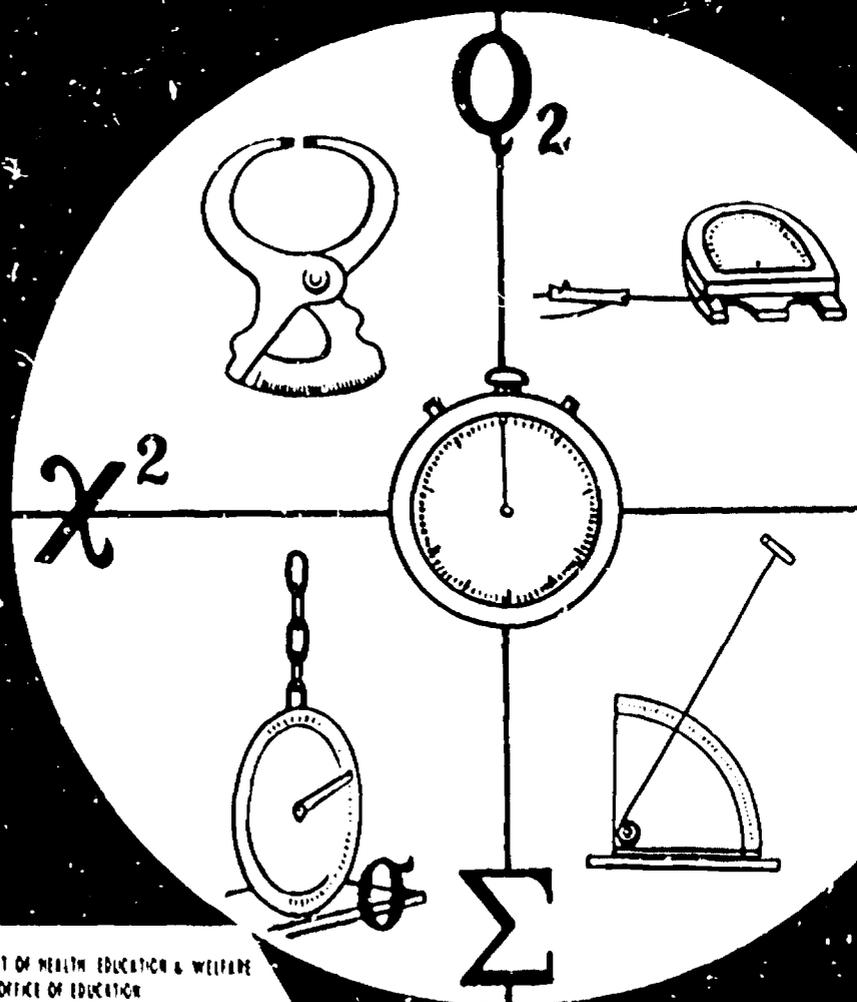
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ABSTRACT

This document is a compilation of completed research in the areas of health, physical education, recreation and allied areas during the year 1962. It is arranged in three parts: An index, bibliography of research published in periodicals and abstracts and listings of unpublished masters and doctoral theses. The index contains cross references for all listings in Parts II and III, and Part II contains a bibliography of published research, citing articles published in 119 periodicals. Part III contains the listings of unpublished masters and doctoral theses for 32 graduate programs of health, physical education, recreation and allied areas. There is a total of 540 references in the bibliography and 362 listings and abstracts to masters and doctoral theses. (HB)

Volume 5
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in Health, Physical Education, and Recreation
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PROFESSIONALLY DEDICATED to the International Council on Health, Physical Education, and Recreation by its United States member, the American Association for Health, Physical Education, and Recreation, to share this compilation with other member organizations of ICHPER and thus to extend knowledge in these fields. This annual volume is published in keeping with ICHPER's objective of exchanging research among professional workers throughout the world and furthering advancement in health, physical education, and recreation. It is hoped it will supplement the *Revue Analytique D'Education Physique et Sportive*, published by the Documentation and Information Bureau in cooperation with the International Council on Sports and Physical Education, under the direction of Julien Falize, who is a member of the ICHPER Executive Committee.

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in Health, Physical Education, and Recreation
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VOLUME 5 1963 EDITION
covering research completed in 1962

Edited by **ALFRED W. HUBBARD** and **RAYMOND A. WEISS**
for the **RESEARCH COUNCIL** of the **AMERICAN ASSOCIATION**
FOR HEALTH, PHYSICAL EDUCATION, AND RECREATION,
a department of the **National Education Association**

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Note: Volumes 1, 2, 3, and 4 of *Completed Research in Health, Physical Education, and Recreation* are available from AAHPER for \$1.50 each.

CONTENTS

This compilation lists research completed in the areas of health, physical education, recreation, and allied areas during 1962. It is arranged in three parts: index; bibliography of research published in periodicals; and abstracts and listings of unpublished masters' and doctors' theses.

Periodical references are compiled by the Committee for Completed Research (listed on page iv). These abstracts are sent in by the institutional representatives, and are then organized, indexed, and edited by the chairmen of the Committee for Completed Research.

PART I - INDEX 1

In the index, cross references are given for all the listings in Parts II and III. References are arranged under the subject headings, which are in alphabetical order. Instructions for using the index are given at the top of page 1.

PART II - PUBLISHED RESEARCH 9

Part II contains a bibliography of research, citing articles published in 119 of the 186 periodicals reviewed by the committee. These periodicals are listed on page 104. References are listed alphabetically by author.

PART III - UNPUBLISHED MASTERS' AND DOCTORS' THESES 36

Part III lists completed masters' and doctors' theses for 32 graduate programs of health, physical education, recreation, and allied areas. Institutions reporting are listed on page 107. Most of the references are accompanied by abstracts of the research. All references are numbered in alphabetical order. Names of institutional representatives sending in these abstracts are indicated in parentheses after the name of the institution.

It is hoped that research workers will find this fifth compilation of completed research a convenient reference source.

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Part I - INDEX

This Index enables the reader to refer to the items of completed research listed in Parts II and III. Research topics are arranged in alphabetical order. The reference numbers following each topic correspond to the listings of completed research dealing with that topic. The capital letter B indicates a reference to be found in the Bibliography (Part II); the capital letter T indicates a reference to be found in the Theses Abstracts (Part III). The numbers indicate the order in which items are arranged in each part.

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Part III - THESES ABSTRACTS

University of California, Los Angeles 24, California (C. H. Young)

1. AGIN, Marjorie Rothstein. Influence of Childhood Interests on Adult Recreation. M.S. in Recreation. 1962. 57 p. (S. Arnold)
Forty-five Los Angeles housewives identified their childhood and adult recreational interests as a basis for assessing continuation of childhood interest and activity. The rank order of childhood and adult interest remained the same for the 10 areas except for aquatics and games. Although few were interested in "mechanics" as children, active interest continued among adults. Participation continued in literary, outdoors, and aquatic activities but showed a marked decline among adults in social activities, drama, sports, music and dancing, arts and crafts, and games.
2. BEAM, Janet Steffee. Effects of In-Service Education of Teachers on Hearing Impairment Referrals. M.S. in Health Education. 1962. 79 p. (E. B. Johns)
Grade I female teachers in the Magnolia School District, Orange County, California, were divided on the basis of school location into an experimental group (13) that received in-service training on identifying children with hearing losses and a control group (17) that received no special training. All Grade I pupils were tested by the school nurse with a pure-tone audiometer. As the group with in-service training referred 33.3 percent accurately while the control group referred only 15.6 percent accurately, the training appeared beneficial. Thirty-five boys and 27 girls had hearing losses, primarily in the 3000 to 8000 cps. range; 32 had hearing losses in the left ear only, compared with 11 with losses in the right ear.
3. BORNELL, Donald Gustave. Physical Educators Compliance with Recommendations for Health Instruction Responsibilities. M.S. in Health Education. 1962. 70 p. (W. Sutton)
Compliance with areas of responsibility in health education assigned in the course of study by the Los Angeles Board of Education was determined on the basis of questionnaire returns from 174 physical education instructors and 195 grade 9 boys in physical education classes at five junior high schools. The responses indicated that health instruction was not covered satisfactorily in the boys' physical education curriculum; lack of periodic evaluation of effectiveness indicated lack of emphasis; health instruction followed no organized pattern of organization; and the block program of health instruction within the physical education program was favored.
4. CALLAHAN, Barbara Louise. Self-Determination Measurement in Physical Education. M.S. in Physical Education. 1962. 91 p. (C. Brown)
Attitude Scale A to measure student's beliefs concerning self-determination in a physical education program and Scale B to measure beliefs concerning self-determination in his own behavior were developed by a modification of Thurstone's method for equal-appearing intervals. Statements were gathered from books and from a questionnaire distributed to male and female, graduate and undergraduate physical education students at UCLA, Illinois, Wyoming, and Courtland. The 150 statements were rated by 30 judges on a five-point scale and final selection was determined by scale and Q values. Each scale had 22 statements of familiar situations with which the subject might approve or disapprove.

5. DALIS, Peter Thomas. A Historical Study of Intramural Sports. M. S. in Physical Education. 1962. 118 p. (R. A. Snyder)
Bibliographical sources were used to trace the growth of intramural sports in institutions of higher education in the United States from 1850 to 1960. Recognition of the contribution of physical activity to education and the growth of recreation and play movements were significant forces in the development of intramurals. The Civil War and World Wars I and II provided an impetus for extending and improving intramural programs. Promotion by professional organizations, economic prosperity, unification of intramurals and physical education, and a fading puritanical attitude toward play aided the growth of intramurals.
6. DENNISTON, Betty Ann. The Study of the Relative Effectiveness of Two Styles of the Side Stroke in Swimming. M. S. in Physical Education. 1962. 79 p. (R. A. Snyder)
Girls aged from 12 to 14 years who passed a beginning swimming test were divided into two groups of 22 each with matched pairs. Both groups used the same leg movement but one group used the down pull and the other the side pull arm stroke. After a 10-week instructional period, two competent judges rated coordination, smoothness, glide power, and body line. The number of strokes used to swim 20 yards was also measured. The differences in achievement were not significant.
7. GREENE, Virginia Dart. Static Balance as a Factor in Badminton Playing Ability. M. S. in Physical Education. 1962. 71 p. (M. Latchaw)
Two static balance tests and a badminton playing ability test were administered to 58 subjects divided by high and low badminton skill and by sex. Mean differences were tested for significance, and correlations between static balance and badminton playing ability were computed. The lengthwise and crosswise static balance tests failed to differentiate between tournament and beginning playing ability except in two cases. Correlations between playing ability and static balance were essentially zero except for the low skill men on crosswise balance where the prediction was fairly good. The crosswise and lengthwise balance tests appeared related but not identical.
8. GRIMES, Catherine Fay. A Study of Human Performance in Two Dimension Movement. M. S. in Physical Education. 1962. 256 p. (J. Sauborn)
Movies were taken of 12 college women before and after two weeks of exploration and self-practice in running forward, backward, laterally left, and laterally right. Subjects completed a questionnaire concerning how they felt running in each direction after the post-test. Time intervals from the first indication of movement to the frame in which the center of gravity was directly over the starting line and then over the finish line were counted in frames from the projected film. The majority of subjects improved their time in all runs. Many individual differences in preparing to perform the specified task occurred. Subjects were inclined to run forward in the lateral runs. Correlations ranged from relatively low to high in all runs.
9. HANSEN, Thomas Otto. Selected Effects of Stretching on Flexibility. M. S. in Physical Education. 1962. 49 p. (D. T. Handy)
Lower back and hamstring flexibility was tested on 33 grade 9 junior high school students in a physical education class. Fifteen repetitions of a specific stretching exercise was followed by retesting immediately after and at 3, 6, and 24 hours after exercise. On the basis of t and Sign Test results, all post-tests differed significantly from the pre-test. Retention of flexibility after three hours was high. This was followed by a gradual

but increasing drop for the 24-hour period.

10. JACOBSON, Marianne Lee. An Electromyographic Study of Tension Variability. M.S. in Physical Education. 1962. 86 p. (V. V. Hunt)

Nineteen out of 125 college women were found to be either high or low tension individuals by the Rathbone Manual Tension Test. Electromyograms were recorded with surface electrodes from the prime movers of the neck, shoulder, elbow, hip, and knee before and after a 4-week interval. Heart rate and blood pressure were also recorded to provide a localized and over-all tension score for the high and low tension groups. A significant degree of variability in tension occurred in both the total group and in the high and low tension groups. The high tension group varied more significantly in tension than the low group. Heart rate and blood pressure did not vary significantly from the first to second test.

11. KRIEGER, Jane Carol. The Influence of Figure-Ground Perception on Spatial Adjustment in Tennis. M.S. in Physical Education. 1962. 46 p. (V. V. Hunt)

The Gottschaldt Embedded-Figures Test was administered to 24 volunteer college men and women from beginning and intermediate tennis classes at UCLA. An original Spatial Adjustment Tennis Test in which three judges rated ability to orient the racket for successful ball contact was also administered. Figure-ground perception was significantly and positively related to spatial adjustment and the relation was greater among more skilled players. Men were significantly more proficient in spatial adjustment than women and intermediates were more proficient than beginners but beginners were more proficient in figure-ground perception than intermediates.

12. LEONARD, Theodore Milton. An Original Method for Analyzing Game Strategy Based upon Data-Processing Techniques. M.S. in Physical Education. 1962. 71 p. (W. W. Massey)

The feasibility of using high-speed, data-processing techniques for analyzing opponents' football strategy and predicting play selection on the basis of scouting reports was investigated. The potential benefit of more effective and efficient methods for analyzing game strategy, thus saving time for other phases of preparation, was evaluated in terms of the increased clerical staff necessary to compile more specific, detailed information.

13. LETON, Jane Kathryn. The Effects of Two Health Education Approaches as Applied to the Weight Reduction of Selected High School Girls. M.S. in Health Education. 1962. 92 p. (E. Johns)

Adolescent high school girls identified as obese in a physical screening examination were assigned randomly to three groups. One experimental group had bi-weekly group discussions concerning the personal and social implications of overweight, food choices, eating habits, caloric values, and weight charts. The second experimental group received literature and lectures and the control group did not participate in any of these activities. Personal and social adjustment was also assessed. No significant mean differences were found between groups on initial weight, final weight, or weight changes during the experiment and no significant deviation from adolescent test norms were observed in personality test profiles.

14. McBEE, Dorothy Carolyn. Self Conceptualization in Movement. M.S. in Physical Education. 1962. 61 p. (V. V. Hunt)

To determine whether security of body image was positively related to concept of movement patterns, undergraduate women at UCLA having

the most favorable and unfavorable self-rating scores on the ball throwing and broad jumping items of the Smith-Clifton Perception Checklist were also given the Hunt-Weber Body Image Projective Test. From this a "Body Image Security" score was derived as a difference between the self image and the ideal image. A secure body image was significantly related to secure feelings about the movement patterns of ball throwing and broad jumping. Differentiation between the positive and negative groups on ball throwing was more significant than that on broad jumping. The correlation between the body image security scores and the combined ball thrown and broad jump scores was more significant for the combined group than for the high or low group.

15. MITCHELL, James Gerald. Effect of Instructional Variables on Motor Skill Learning of 5th-Grade Boys. M.S. in Physical Education. 1962. 51 p. (W. W. Massey)

Fifty-one grade 5 boys from the Santa Monica Unified School District were given one day of instruction and practice before division into three equated groups on the basis of an underhand volleyball serve test. The test was original and had reliability coefficients of .89 (right side), .67 (left side), and .90 (both sides). All groups had three 20-minute periods of practice activity per week and the serving test was given on the fourth day for six weeks. Each group either practiced serving as part of the game, specifically apart from the game, or in related, lead-up activity. All groups improved. The related game group improved significantly (.03) and the skill practice group also increased more than the game activity group but the mean differences between groups were not significant.

16. NILSEN, Carol. Level of Health Behavior and Academic Achievement of Students Reporting Use of Selected Stimulants and Depressants. M.S. in Health Education. 1962. 103 p. (W. Sutton)

The Reid Health Problems Test, the Johns and Junnke Health Practice Inventory, and a questionnaire to determine use of alcohol, caffeine, amphetamine, barbituates, and tranquilizers were given to 516 students in health education classes at Santa Monica City College. Except for caffeine, which the majority consumed in large amounts, limited and infrequent utilization of drugs was reported by a minority of students. Less frequent use of alcohol, caffeine, and amphetamine was associated with higher health practices scores. Those who used barbituates occasionally had slightly better health practices, and, along with those who occasionally used tranquilizers, higher health knowledge and academic achievement. All relationships were slight and insignificant.

17. OLIVIER, Kenneth S., Jr. A Comparison of Conditioning Exercises Relative to Performance in Rope Climbing. M.S. in Physical Education. 1962. 64 p. (W. W. Massey)

One group trained with weights twice a week and the other with gymnastics three times a week for eight weeks. Both groups made gains in the McCloy athletic-strength index which were significant at the .001 level of confidence. Improvement in rope climbing was slight and nonsignificant although slightly greater in the gymnastics group which had an initial experiential advantage. Weight training exercises for the muscle groups involved in rope climbing should prove advantageous.

18. POLLOCK, Marion Best. Revision of the Le Maistre Health Behavior Inventory. M.S. in Health Education. 1962. 159 p. (E. B. Johns)

Health needs and interests studies were consulted as a basis for revising and updating the Le Maistre inventory. The revised inventory was administered to 438 students in eight randomly selected high schools in six states as a basis for determining item discrimination and difficulty, non-

functioning responses, reliability and the standard error of measurement. The 25 new items correlated .82 with the original 50 items. Comments and suggestions by a panel of experts provided further validity. The 75 items were separated into those dealing with knowledge, attitude, or practice for increased utility in determining a profile of health behavior. The revised test was presented as the Le Maître-Pollock Health Behavior Inventory.

19. RIES, Susan Carol. Dominance, Discrimination and Accuracy in Fencing. M.S. in Physical Education. 1962. 43 p. (V. V. Hunt) Twenty-eight subjects in two beginning fencing classes were tested twice in an accuracy test consisting of lunges at a wall target and disengage lunges at a live target. Eye dominance was established by Miles' ABC Vision Test. Hand and foot dominance depended on consistent preference in seven of eight tasks with lower scores indicating ambidexterity. Right-left discrimination ability was determined by selected items from Benton's tests. The accuracy tests were reliable at the .01 level but the lunge and disengage tests measured significantly different aspects. The hypothesis that accuracy in foil fencing was greatest with a combination of pure dominance and a high degree of right-left discrimination was not supported since accuracy in the lunge test was highest with mixed eye-hand dominance, and right-left discrimination appeared not related to the accuracy test.

20. SAKOMIZU, Sachiko. An Analysis of the Philosophical Concepts in Recreation. M.S. in Recreation. 1962. 108 p. (S. Arnold) The development of recreation philosophy was traced through the publications of 11 authorities in four periods, namely: Inspiration—Lee and Gulick—1904-1915; Experimentation—Rainwater, Nash, and Braucher—1915-1930; Consolidation—Lindeman and Romney—1930-1945; and Actualization—Fitzgerald, Douglass, Predegaast, and Brightbill—1945-1960. The main streams of thought that emerged were Pragmatism and Idealism.

21. TESSIER, Florence Annette. Self-Inventory for Movement Education. M.S. in Physical Education. 1962. 85 p. (V. V. Hunt) Items emphasizing attitudes and feelings toward the body were derived from the literature. Critical analysis by six expert resource persons assisted development of the final form consisting of 12 open-end questions concerning interests, attitudes, etc.; 20 self-rating personality items; and 42 self-rating items on bodily parts and processes. The inventory was administered to 20 female college students in a movement education class to obtain the reactions of students.

22. WERLING, Wayne Edward. The Relationship of Forearm Muscle Strength to Bat Swing Velocity. M.S. in Physical Education. 1962. 34 p. (W. W. Massey) The Marathon Velocity Bat was of regulation weight and length and contained a compression spring, centrifugal force meter registering in miles per hour. Twenty grade 10-12 students performed 24 trials with the velocity bat and 24 trials of hand-grip strength with each hand on the Jamar Adjustable Dynamometer. The right hand had the higher grip strength. The left grip had little relation to the velocity of the bat swing. Comparison of the top and bottom five subjects in total mean grip strength indicated some relationship between velocity and grip strength.

Colorado State College, Greeley, Colorado

(J. E. Genasci)

23. DORNBOS, Roy, Jr. A Procedure for Obtaining Transfer Status

of Junior College Credits in Physical Education in Michigan Colleges and Universities. Ed. D. in Health and Physical Education. 1962. (L. C. Butler)

Replies from 22 senior colleges and universities in Michigan indicated that transferability of junior college credits should be determined by the level of education of the instructor, the content being similar to credit courses offered by the senior institution, and the approval of the senior institution. Determining that a similar credit course was offered by the senior institution and approval of course content by the senior institution was suggested as a basis for obtaining transfer credit. The procedure for determining transferability of credit could be used in other states and other subject areas.

24. ENGLUND, John Homer. A Comparative Study of Cardiovascular Adjustment to Rapid and Extreme Weight Reduction in College Wrestlers. Ed. D. in Health and Physical Education. 1962. (M. Everett)

Changes in physical efficiency were determined by administering an adapted Harvard Step Test to 62 wrestlers before and after a 3-week period. Initial and final indexes were computed as a basis for determining the "mean index variation." The wrestlers were ranked according to percent of body weight reduction during the test period. The top 16 in percent weight reduction were classed as "extreme" and the remainder were considered "limited." Neither the Mann-Whitney U-Test for group differences in mean index variation nor the rank difference correlation between weight loss and physical efficiency was significant at the .05 level.

25. GRAVES, Oard Conrad. The Effects of Initial Testing and Knowledge of Mechanical Principles Upon the Performance of a Motor Skill. Ed. D. in Health and Physical Education. 1962. (W. M. Staton)

Principles of projection, acceleration, and foot force were developed by cinematographical analysis based on pictures from one fourth of 624 students in 12 schools selected equally from grades 2, 4, and 6. One control group received an initial and final throwing test; the other received only the final test. One experimental group received the initial test, instruction, and the final test; the other received instruction and the final test. Analysis of variance was applied to the final ball throw for distance test scores and the scores obtained from the cinematographic analysis which corresponded to the three mechanical principles. Some evidence indicated that projection was important in throwing for distance but application of the principles of acceleration and foot force appeared to have no effect.

26. KEITH, Bradley Foster. A Study of the Leisure Physical Activities of Teachers. Ed. D. in Health and Physical Education. 1962. (H. G. Danford)

Teachers attending summer school at Colorado State College were surveyed to determine the 10 leisure physical activities in which participation was most frequent and desired. The great bulk of teachers participated very infrequently. Health and physical education teachers were more active in their leisure than others and men participated more frequently than women. The primary reasons for non-participation in desired activities were lack of money for men, lack of skill for women, and lack of facilities for both. Secondary school teachers participated more frequently than elementary or college teachers and frequency of participation increased with salary. Younger teachers with younger children participated more frequently but marital and parental status enhanced home-centered participation and inhibited participation outside. Too

few of the teachers had previous instruction in leisure physical activities to determine a significant effect of participation and desired participation.

27. MEISE, William C. The Construction of a Scale for the Evaluation of Opinions Toward Healthful Living. Ed. D. in Health and Physical Education. 1962. (W. M. Staton)

The scale was constructed, tested, and revised. The final revision was administered to 100 randomly selected college freshmen and sophomores to determine reliability by the split-half and Kuder-Richardson item analysis methods. The scale appeared useful in evaluating health opinions and for initiating individual counseling.

University of Colorado, Boulder, Colorado

(Edna Willis)

28. ESTES, Mary Louise. The Relationship Between the Performance of Third Grade Children on the Johnson-Metheny Test and Their Performance on Each of Three Tests of Selected Motor Skills.

M.S. in Physical Education. 1962. 82 p. (E. Willis)

Performance scores on the Johnson-Metheny Test for 60 grade 3 boys and 62 grade 3 girls were correlated separately with the results of a shuttle run, a standing broad jump, and a repeated wall-volley (catch and throw) test. Results for the shuttle run for boys and girls and the standing broad jump for girls were sufficiently reliable for forming homogeneous groups but not for measuring individual performance. The remaining motor skill test results were not sufficiently reliable for forming homogeneous groups. Correlations between the Johnson-Metheny Test results and the three reliable basic motor skill test results were not high enough to warrant using the Johnson-Metheny Test in place of any of the other three.

29. JOHNSON, Norma Jean. Tests of Achievement in Bowling for Beginning Girl Bowlers. M.S. in Physical Education. 1962. 55 p. (E. Abbott)

Three original bowling tests of increasing difficulty were tested for reliability with results from 105 beginning girl bowlers in grade 9 physical education classes at Fairfield Community High School. The reliability of each test, estimated by the Spearman-Brown Prophecy Formula, was .642 for rolling shadow balls on the alley bed, .552 for number of pins downed with the first ball in each frame, and .000 for hitting the head pin with the first ball in each frame. The reliabilities were too low for individual or group measurement but the rating scales prepared from scores at different stages in the instructional period might have motivational value.

30. PETERSON, Beverly Mae. Arm and Shoulder Girdle Strength of Children in Primary Grades. M.S. in Physical Education. 1962. 98 p. (E. Willis)

Children in the three primary grades at Park Hill Elementary School, Denver, were tested for arm and shoulder girdle strength with a push-pull dynamometer. Ranges, means, and standard deviations for pushing and pulling strength of boys and girls at average age 6.5, 7.5, and 8.5 years were computed separately. Pushing strength was found to be greater than pulling strength in all six groups. The difference between pushing and pulling strength in girls increased successively with age but a greater difference was found for boys at an average age of 7.5 years than at 6.5 or 8.5 years. Otherwise, the arm and shoulder girdle strength of boys and girls increased successively with age and boys were stronger than girls at the same age.

Eastern Illinois University, Charleston, Illinois (J. W. Masley)

31. BOCKWITZ, William Ray. A Study Comparing Two Isometric Contraction Training Methods for Increasing Strength. M.S. in Ed. in Physical Education. 1962. 48 p. (J. W. Masley)
32. KIRBY, Ronald Francis. A History of intercollegiate Baseball at Eastern Illinois University from 1904 through 1962. M.S. in Ed. in Physical Education. 1962. 174 p. (M. O'Brien)
33. OBERG, Donald Dean. Comparative Analysis of Specific Training and Conditioning Methods Pertaining to Competitive Swimming. M.S. in Ed. in Physical Education. 1962. 51 p. (W. Groves)
34. PITOL, Frank R. The History of Basketball of the Collinsville High School. M.S. in Ed. in Physical Education. 1962. 225 p. (J. W. Masley)
35. RASMUSSEN, Donald Allan. The Effect of Resistive Exercises upon the Velocity of a Thrown Baseball. M.S. in Ed. in Physical Education. 1962. 31 p. (J. W. Masley)

Florida State University, Tallahassee, Florida (P. W. Everett)

36. CLENDENIN, William S. A History of Men's Intercollegiate Athletics at Florida State University Through 1959. M.S. in Physical Education. 1962. 152 p. (D. A. Veller)
37. DICKERT, Margaret Anne. A Descriptive Study of Two Methods of Teaching Beginners to Swim the American Crawl Stroke. M.S. in Physical Education. 1962. 23 p. (K. D. Miller)
38. HAYMES, Emily M. The Relationship Between Certain Anthropometric Measurements and Certain Tests of Strength and Motor Ability Among College Women. M.S. in Physical Education. 1962. 64 p. (P. W. Smith)
39. HEESCHEN, Richard E. A Comparison of the Balancimeter to the Illinois Progressive Balance Beam Test, the Basa Stick Test, and the Springfield Beam-Walking Test. M.S. in Physical Education. 1962. 61 p. (H. K. Campney)
 This study was undertaken to determine the relationships among scores obtained on four selected tests of human balance. Fifteen men and 15 women volunteers acted as subjects. Product-moment correlation coefficients were obtained by an IBM 709 Computer. From studying the resulting 3,600 correlations it was concluded that: (a) in no instance did substitution of one test for another seem justified; (b) the Balancimeter appeared to measure something not pertinent to the other three tests; and (c) conclusions based on information provided by any of these tests should be limited to that test and testing situation.
40. HOLCOMB, Danny L. A Cinematographical Analysis of the Forehand, Backhand, and American Twist Serve Tennis Strokes. M.S. in Physical Education. 1962. 75 p. (H. K. Campney)
41. PERRYMAN, Joann V. Research Reports Published in Selected Periodicals Pertaining to the Physiology of Exercise. M.S. in Physical Education. 1962. 75 p. (H. K. Campney)

42. REESE, Patricia Ann. The Comparative Use of Synchronized Swimming and Stroke Improvement Swimming as Recreational Therapy Tools with Selected Psychiatric Patients. M.S. in Recreation. 1962. 106 p. (W. J. Tait)
43. RILEY, Marie I. Relationships Between Selected Anthropometric Measurements and Tests of Physical Performance of Girls in Grades One Through Nine. Ph. D. in Physical Education. 1962. 125 p. (P. W. Everett)
44. SCHOONOVER, Barbara. Recommended Practices and Procedures for Camp Staff Recruitment in Institutions of Higher Learning in Nine Southern States. M.S. in Physical Education. 1962. 98 p. (M. F. Hall)

Illinois State Normal University, Normal, Illinois (E. E. Stish)

45. BISHOP, Harold Melvin. The Physical Education Programs for Boys of Livingston County, Illinois. M.S. in Physical Education. 1962. 82 p. (J. Collie)
46. DOUGLASS, Thomas Jay, Jr. Wrestling Award Requirements for Interscholastic Competition in Illinois High Schools. M.S. in Physical Education. 1962. 64 p. (E. Hill)
47. GILBERT, Edmund Jeffery. Qualifications and Duties of Athletic Directors in Selected Illinois Secondary Schools. M.S. in Physical Education. 1962. 86 p. (A. Gillett)
48. GROVES, Ethel Trilling. A Guide for Modern Dance Assembly Programs in the Secondary Schools. M.S. in Physical Education. 1962. 58 p. (M. Gray)
49. MARLER, Rose Marie. Personality Variables of Extramural Participants and Non-Participants Among Women Physical Education Majors. M.S. in Physical Education. 1962. 58 p. (E. Kelly)
 Two groups, each of 38 women physical education majors at Illinois State Normal University who were participants and non-participants in extramurals, were equated on motor ability (Scott General Motor Ability Test) and academic ability (School and College Ability Test) before taking the Edwards Personal Preference Schedule. Comparison of means showed that the participants were significantly lower than the non-participants on need for achievement and on test consistency score. Comparison of both groups with a successful group of physical education students and teachers reported by Thorpe showed that both the present participants and non-participants were significantly lower on need for deference, order, and endurance, and were significantly higher on the need for abasement and nurturance. In addition, the non-participants were significantly higher on need for achievement and test consistency score. Differences between the three groups on need for exhibition, autonomy, affiliation, intraception, succorance, change, heterosexuality, and aggression were not significant.
50. McDONALD, Bruce Emmett. A Comparative Study on the Use of Statistical Aids to Football Strategy. M.S. in Physical Education. 1962. 53 p. (B. O'Connor)
51. NEIBUHR, Guy Fulton. A Study of Holding Power in Relation to Extra-Curricular Activities at Warrensburg-Latham High School.

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M.S. in Physical Education. 1962. 30 p. (A. Gillett)

52. TURNER, Donald Duane. A Cinematographic Presentation of Basic Wrestling Maneuvers. M.S. in Physical Education. 1962. 40 p. (And 400 ft. of film) (E. Hill)
53. WINKLER, Martha Fidler. Teacher Attitudes of Extramural Participant and Non-participant Women Physical Education Majors. M.S. in Physical Education. 1962. 40 p. (E. Kelly)

University of Illinois, Urbana, Illinois

(A. W. Hubbard)

54. BASILE, Joseph. A Pilot Study Regarding a Health Knowledge Inventory for Traumatic Paraplegics. M.S. in Health Education. 1962. 75 p. (F. E. Boys)
55. BECKER, Kenneth C. The Effects of Moderate Sleep Loss on Selected Bodily Responses. M.S. in Health Education. 1962. 75 p. (F. E. Boys)
56. BERNAUER, E. M. Endurance Performance and Associated Physiological Responses under Selected Thermal Environments. Ph.D. in Physical Education. 1963. 203 p. (A. W. Hubbard)
57. BIRD, Patrick J. Comparison of Olympic-level and Varsity Gymnasts on Physical Fitness Characteristics. M.S. in Physical Education. 1962. 69 p. (T. K. Cureton)
58. BOSCO, James S. The Physical and Personality Characteristics of Champion Male Gymnasts. Ph.D. in Physical Education. 1962. 201 p. (T. K. Cureton)
59. BROWNING, Donald E. The Relative Effectiveness of Series and Reserve Option Methods of Teaching Wrestling. M.S. in Physical Education. 1962. 18 p. (H. E. Kenney)
60. BUEHRER, Stanley R. An Evaluation of the Boys' Physical Education Program in Selected Junior and Senior Ohio High Schools. M.S. in Physical Education. 1962. 104 p. (C. O. Jackson)
61. CHRISTENSEN, Judith. A Study of the Origin and Influence of Attitude on Dietary Habits of College Men and Women. M.S. in Health Education. 1962. 60 p. (F. E. Boys)
62. CLONE, Jean S. The Effect of a Modified Basketball Size on the Performance of Selected Basketball Skills by Senior High School Girls and College Women. M.S. in Physical Education. 1962. 59 p. (O. G. Young)
63. COATES, Francis C. A Plan for Training Young Men's Christian Association Voluntary Junior Leaders in New Zealand. M.S. in Recreation. 1962. 403 p. (C. K. Brightbill)
64. COOKE, William J. An Index of Self-Derogation Between Obese and Non-obese Fourth Grade Children. M.S. in Health Education. 1962. 61 p. (G. B. Couch)
65. CORBIN, Charles B. Scholastic Success of Athletes in the Various Colleges and on the Various Sports Teams of the University of

- Illinois. M.S. in Physical Education. 1962. 87 p. (C. O. Jackson)
66. DEESE, Paul W. The Effect of Weight Training on Batting Movement Time. M.S. in Physical Education. 1962. 47 p. (A. W. Hubbard)
67. DI GENNARO, Joseph. Effectiveness of Three Teaching Methods on Learning and Retention of Health Material by Sixth Grade Students. M.S. in Health Education. 60 p. (F. E. Boys)
68. DOROSCHUK, Eugene V. The Relationship of Metabolic, Cardiovascular, and Motor Fitness Tests with Endurance Running of Young Boys. Ph.D. in Physical Education. 1962. 69 p. (T. K. Cureton)
69. ENGERBRETSON, David L. The Effects of Interval Training on the Insulin Dosage, Sugar Levels, and Other Indexes of Physical Fitness in Three Diabetic Subjects. M.S. in Physical Education. 1962. 136 p. (T. K. Cureton)
70. FARHI, Asher. Physical Fitness of the U. S. Air Force Officers Defense Command. M.S. in Physical Education. 1962. 143 p. (T. K. Cureton)
71. FINK, Gilbert L. A Study of the Development and Operation of a Transportation System for Severely Permanently Physically Disabled Students at the University of Illinois. M.S. in Recreation. 1962. 93 p. (C. K. Brightbill)
72. GOODALE, Thomas L. The Use of Out-Of-School Time by Seventh and Eighth Grade Students from Two Rural Area Schools in Illinois. M.S. in Recreation. 1962. 177 p. (A. V. Sapora)
73. GROSSFELD, Abraham. The Underbar Somersault on the Parallel Bars. M.S. in Physical Education. 1962. 55 p. (A. W. Hubbard)
74. HAHN, Roger J. Comparative Retention of Jumping Ability Under Varied Conditions of Weight Training. M.S. in Physical Education. 1962. 50 p. (A. W. Hubbard)
75. HARRIS, Harold E. An Analysis of Motivation Components in Track and Field. M.S. in Physical Education. 1962. 57 p. (T. K. Cureton)
76. HAYDEN, Francis J. A P-Technique Factor Analysis of Cardiovascular Variables. Ph.D. in Physical Education. 1962. 109 p. (T. K. Cureton)
77. HENDERSON, William R. The Effects of Isotonic Weight Training on Basic Sports Skills. M.S. in Physical Education. 1962. 41 p. (H. E. Kenney)
78. HILL, Elizabeth J. Dental Health Misconceptions Among Freshman College Women. M.S. in Health Education. 1962. 106 p. (G. B. Couch)
79. HOOSER, Richard L. A Study of Emotional Maturity in Five Selected Groups: (1) Traffic Violators, (2) College Students; (3) High School Students; (4) Teachers; (5) Lay Public. M.S. in

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- Health Education. 1962. 55 p. (A. E. Florio)
80. **KNUTZEN, Gary H.** The Role of Aggressiveness in Wrestling. M.S. in Physical Education. 1962. 46 p. (H. E. Kenney)
 81. **LABANOWICH, Stanley.** A Study of Recreation Patterns and Attitude Towards Recreation Among Selected Jewish Families in Skokie, Lincolnwood, and Morton Grove, Illinois. M.S. in Recreation. 1962. 111 p. (A. V. Saporá)
 82. **LEPHART, Sigmund A.** A Study of the Diving Training Procedures Used By Outstanding Diving Coaches. M.S. in Physical Education. 1962. 167 p. (H. E. Kenney)
 83. **LEWIS, Geraldine.** A Study of the Professional Status of Selected Dance Studios, in Broome County, New York. M.A. in Physical Education. 1962. (M. Erlanger)
 84. **LIVERMAN, Robert E.** Changes in Fitness Tests During a Normal Working Day. M.S. in Physical Education. 1962. 70 p. (T. K. Cureton)
 85. **McCLUNG, Ray O.** Physical Fitness of United States Air Force Officers as Measured by the Cureton Eighteen Item Motor Test. M.S. in Physical Education. 1962. 86 p. (T. K. Cureton)
 86. **McTAGGART, A. C.** The Flesch and Dale-Chall Readability Formula in Relation to High School Health Material. Ph. D. in Health Education. 1962. 206 p. (H. S. Hoyman)
 87. **MIKESELL, Deloris J.** The Effect of Mechanical Principle Centered Instruction on the Acquisition of Badminton Skills. M.S. in Physical Education. 1962. 98 p. (O. G. Young)
 88. **MINTZ, Leonard.** The Relationship Between Body Weight and a Selected 3-Item Physical Fitness Test. M.S. in Health Education. 63 p. (F. E. Boys)
 89. **MOLE, Paul A.** The Influence of Interval Running on the Aerobic Metabolism and Endurance Performance of Four Young Men. M.S. in Physical Education. 1962. 98 p. (T. K. Cureton)
 90. **PAPE, Donald L.** Physique Ratios Related to Age in Boys 7-13 Years. M.S. in Physical Education. 1962. 106 p. (T. K. Cureton)
 91. **PASSIKOFF, Barbara C.** A Comparison of Highly Skilled and Novice Fencers in the Qualities of Movement Time and Depth Perception. M.S. in Physical Education. 1962. 46 p. (O. G. Young)
 92. **PENNY, William J.** Evaluation of an Experimental Ice Skate. M.S. in Physical Education. 1962. 27 p. (T. K. Cureton)
 93. **RADER, John W.** Current Practices Concerning Medical Care and Insurance Coverage of High School Athletes in Illinois. M.S. in Physical Education. 1962. 58 p. (C. O. Jackson)
 94. **SANDE, Gary R.** Noise Levels in University Teaching and Study Areas. M.S. in Health Education. 1962. 104 p. (F. E. Boys)

95. SHERMAN, Michael A. Effects of Interval Running on the Endurance and Cardiovascular Condition of Selected Young Boys. M.S. in Physical Education. 1962. 96 p. (T. K. Cureton)
96. SLAGLE, James R. A Study of Factors Causing Adults to be Non-Swimmers Based on a Survey of Students Enrolled in Beginning Swimming at the University of Illinois. M.S. in Physical Education. 1962. 29 p. (A. E. Florio)
97. SYREN, Marvin R. Health Instruction by General Science Teachers in the Gary, Indiana, School System. M.S. in Health Education. 1962. 104 p. (F. E. Boys)
98. TAYLOR, Paul R. College Baseball in the Western Division of the Volunteer State Athletic Conference. M.S. in Physical Education. 1962. 52 p. (C. O. Jackson)
99. TERZIAN, George A. The Physical Fitness Status of Freshman Footballers. M.S. in Physical Education. 1962. 81 p. (T. K. Cureton)
100. THOMPSON, Carol A. Study of Various Reaction Times and Movement Times as Factors of Volleyball Playing Ability. M.S. in Physical Education. 1962. (O. G. Young)
101. TURIK, Henry A. An Investigation of School District Special Tax Legislation for Public Recreation Programs in Six Selected States. M.S. in Recreation. 1962. 97 p. (A. V. Sapora)
102. TURNER, M. Ann. An Analysis of Volunteer Staff Relationships in the Young Women's Christian Association of Canada. M.S. in Recreation. 1962. (C. K. Brightbill)
103. WELSH, Raymond L. Transfer of Training in the Scissor and Frog Kick. M.S. in Physical Education. 1962. 42 p. (A. W. Hubbard)
104. WREN, Edward A. The Effect of Interference Upon the Brachial Pulse Wave in Various Postural Positions, With and Without Venous Impedence. M.S. in Physical Education. 1962. 42 p. (T. K. Cureton)
105. YUHASZ, Michael S. The Effects of Sports Training on Body Fat in Man With Predictions of Optimal Body Weight. Ph. D. in Physical Education. 1962. 121 p. (T. K. Cureton)

Indiana University, Bloomington, Indiana

(K. W. Bookwalter)

106. BAPTISTA, Robert Charles. A History of Intercollegiate Soccer in the United States of America. P.E.D. 1962. 250 p. (G. F. Cousins)

Using the annual Soccer Guide, a year by year record of competition was compiled for each American college and university with a history of participation in intercollegiate soccer. The cumulative records were submitted to individual schools for verification or correction. The data were classified into three divisions: the game in the 1800's, the growth of the game during the 1900's, and the growth and development of leagues and championship teams and the evolution of the playing rules. By 1959, a total of 216 colleges or universities participated in intercollegiate soc-

cer and the game seemed well established.

107. DECK, John Marion. Effect of Various Body Positions on Certain Initial Step Patterns Upon Primary Backfield Speed. P. E. D. 1962. 150 p. (G. F. Cousins)

The time involved in sprinting five yards from various body positions at selected angles while employing certain initial step patterns was measured by a portable photo-electronic timer to .01 second. The body positions were the three-point stagger and the two-point parallel. The angles were 90 degrees to the right and left, 45 degrees to the right and left, and straight ahead. The two-by-four factorial design was used. The .01 level of confidence was selected for all tests of significance. No significant differences were obtained.

108. ENBERG, Richard Alan. An Analysis and Synthesis of Professional Thought on the Health and Welfare of the Athlete with Emphasis on Prevention of Athletic Injury. H. S. D. 1962. 409 p. (D. J. Ludwig)

Only literature published from 1945 to 1960 was analyzed and synthesized. Some of the important conclusions were: (a) overemphasis on winning predicated increased injury hazards; (b) year-round conditioning by each athlete was essential in guarding against injury; (c) progressive resistance exercises were successful in developing maximum muscular and ligamentous strength; (d) it was essential that the athlete be protected as thoroughly in practice sessions as he is in game situations; (e) custom-made, individually fabricated mouth protectors were necessary for all players in contact sports; (f) it was important that every participant in contact sports be required to undergo an electroencephalographic test; (g) the use of vitamins and drugs to encourage improved performance can lead to serious bodily harm; and (h) there was no valid reason to deny athletes water during practice or game situations.

109. FORD, Phyllis. An Analysis of Leisure Time Activities and Interests of Aged Residents of Indiana. Re. D. 1962. 267 p. (T. P. Peppe)

All persons aged 65 and over living in randomly selected households in eight communities were interviewed by lay persons recruited from the communities and trained to record on tape a seven-page interviewing schedule covering interest and participation in 68 leisure time activities. Replies from 854 persons were obtained. Two of the conclusions were that there is no way to categorize or to describe the interests of a typical aged person and that schools, churches, and communities are not playing a major role in the present use of leisure time of the aged.

110. GOLDMAN, Howard. The Effect of Variations of Distance and Method in Teaching Beginning Archery to College Men. P. E. D. 1962. 93 p. (K. W. Bookwalter)

A three by two factorial design was employed in analyzing the data from 72 volunteers randomly assigned to six groups which in turn were randomly assigned to treatments. The criterion measure at the end of the four week instructional period consisted of shooting 30 arrows at each distance of 30, 40, 50, and 60 yards. The method of shooting was found to be a significant factor in archery achievement. The point of aim and the bow sight methods were significantly superior to the instructive method at the 30-yard practice distance.

111. HANIFORD, George W. The Utilization of the "Recreational Gymnasium" by Purdue University Undergraduate Students. P. E. D. 1962. 253 p. (M. C. Wakefield)

The survey was conducted during the Purdue University academic year of

1958-59. The chi square test of goodness of fit and chi square test for k independent samples were used to analyze the data under four major headings: general, academic, enrollment, and academic enrollment. It was concluded that the purpose of the Recreational Gymnasium was successfully satisfied in terms of the number of students utilizing the building and in terms of the intensity of the use of the building by the students.

112. KUHN, Bernard Joseph. Analysis of Selected Events Subsequent to Submerging of Vehicles in Deep Water. H.S.D. 1962. 214 p. (B. I. Loft)

The technique involved the placing of two car-haul-aways with tracks in such a position that a vehicle descending from either ramp would descend to the bottom of the water after entering upright with either all windows closed, two front windows open, or left window open. The vehicles were suspended at water level and released under their own weight by the use of a crane with cable attachment. A few of the conclusions were that the greater the height of entry, the greater the chance of the windshield's being shattered upon impact; that no vehicle submerging in water 12 feet in depth will descend to the bottom in a horizontal position but always at an angle—engine first; that air will be compressed by inflow of water and forced into the trunk compartment; and that doors on vehicles with all windows closed cannot be opened until the inside pressure is equal to the outside pressure or until the water has reached its maximum height in the interior of the vehicles.

113. RHODES, Wanda Mae. Effects of Variations and Number of Strokes Taught and Equipment Used on Tennis Achievement. P.E.D. 1962 (E. A. Davies)

A randomized group design with a 2 x 2 factorial arrangement of treatments was selected. The 79 college freshmen women were assigned to four treatment groups and given instruction as follows: (a) three basic strokes were taught employing tennis equipment, (b) three basic strokes were taught employing paddle tennis equipment, (c) four strokes were taught employing tennis equipment, and (d) four strokes were taught employing paddle tennis equipment. A criterion skill test was administered following 15 class sessions and 30 class sessions. There was a significant difference in favor of the groups utilizing paddle tennis equipment.

114. SATO, Edward Hisumi. A Guide for the Organization and Administration of an Outdoor Education Program in a Camp Setting for a Metropolitan Public School System. Re. D. 1962. 272 p. (G. G. Eppley)

Basic objectives were rated by four school camp directors and four school curriculum specialists. The evaluation form on the organization and administration of the outdoor education program in a camp setting was rated by ten school camp directors and college professors. From the analysis of the data, a usable guide for school systems of the significant practices in outdoor education was developed.

115. SCHERER, Ben F. Effectiveness of Three Methods of Instruction in a Driver Improvement School. H.S.D. 1962. 183 p. (B. I. Loft)

The instructional methods were the lecture-film, the driver simulator, and the psychophysical testing programs. A total of 30 subjects was randomly selected for each experimental program from all traffic violators assigned to the City of Bloomington (Indiana) Driver Improvement Schools during the months of November and December 1961, and January 1962. Reckless drivers were least affected by a driver simulator program.

116. WHALEN, Donald Francis. The Effects of Driver Improvement

School on the Attitudes and Subsequent Driving Records of Selected Indiana Traffic Violators. H. S. D. 1962. 141 p. (D. J. Ludwig)

Traffic violators assigned to the Marion County (Indiana) Driver Improvement School in August, 1959, were randomly divided into two groups and the groups were randomly assigned to treatments. Driving records for both groups were secured for a one-year period following the experimental group's attendance at the driver improvement school. Attendance at the driver improvement school appeared to have a negative effect on the number of subsequent violations but a positive effect on the severity of subsequent violations and attitudes toward safe driving. Those with less than high school education were affected most in the improvement of attitudes toward safe driving.

117. WHITE, Jess Russell. A Comparison of Achievement of Physical Education Program Objectives in Good, Fair, and Poor Secondary School Programs for Boys. P. E. D. 1962. 232 p. (G. F. Cousins)

Forty students each were randomly selected from good, fair, and poor programs and were given the following tests: dodging run, push-ups, standing broad jump, volleyball wall volley, 50-yard dash, softball for throw, sports knowledge, and situation-response attitude scale (Moawad). Students in the better programs as rated by the LaPorte Score Card No. II appeared to possess a higher degree of agility, arm strength, power, and hand-eye coordination; more knowledge of sports, skills, rules, and game strategy; and better attitudes toward physical education than did students from the poorer schools. A definite relationship appeared to exist between score card ratings of programs and the achievement of program objectives as measured by the selected tests.

118. YINGER, Harold L. Criteria for Selection and Success of Male Physical Education Teachers by Selected Superintendents from Missouri. P. E. D. 1962. 202 p. (K. W. Hookwaller)

A check list was administered by personal interview to 100 Missouri public school superintendents. Included were personal qualifications and the criteria considered important in the selection and success of teachers. Items were rated on a four-point scale and were examined in relation to school success. The successful male physical education teacher must exhibit honesty, sincerity, ethical conduct, effectiveness in working with others, high standards of human relationships, and an acceptable won-lost coaching record.

State University of Iowa, Iowa City, Iowa

(L. E. Alley and
D. R. Mohr)

119. ALLEN, Mary Frances. A Pamphlet and Poster Series for the Recruitment of Girls into a Physical Education Teaching Career. M. A. in Physical Education. 1962. 171 p. (B. van der Smissen)

Nine recruitment posters and pamphlets were prepared for monthly use during the school year, covering history and social importance, qualifications, preparation, work conditions, duties, salary advancement, advantages and disadvantages, and supplementary information. Content was evaluated by the AAHPER Selection and Recruitment of Competent Women Committee and by other physical educators. Readability was assessed with the Dale-Chall formula and human interest with the Flesch formula. Swimming was used as the basic theme. The printed material was evaluated by persons in journalism and printing and the posters presenting animations of the sub-themes were evaluated by individuals in audiovisual instruction, graphic arts, and printing.

120. ANDRUS, Ruth. A History of the Recreation Program of the Church of Jesus Christ of Latter-Day Saints. Ph. D. in Physical

of one centimeter or of volume displacement of 3 centimeters of water level occurred. One subject exhibited this change in 4 weeks, six in 5 weeks, three in 6 weeks, and three in 7 weeks.

125. KEOUGH, Betty Jean. The Effects of a Daily and Two Day Per Week Physical Education Program upon Motor Fitness of Children. Ph.D. in Physical Education. 1962. 142 p. (M. G. Scott)

The Iowa Test of Motor Fitness was administered to grade 3 and 5 students in two parochial schools before and after 20 well organized and varied physical education periods of 30 minutes duration. The children in the daily program were also tested 3 and 7 weeks after classes had been discontinued. The two period per week program appeared as effective as the daily program of equal content and total duration since significant gains in composite motor fitness resulted in both grades from both programs. The composite and individual test mean gains showed little difference for boys and girls. Gains from the daily program were maintained for at least 7 weeks after participation was discontinued.

126. KITZMAN, Eric W. Baseball: Electromyographic Study of Batting-Swing. Ph.D. in Physical Education. 1962. 43 p. (L. E. Alley)

Electromyograms from the pectoralis majors, triceps brachii, and latissimus dorsi of two skilled and two unskilled batters were recorded with a Grass electroencephalograph and photographs were taken with a synchronous motor-driven Maurer-Studio camera. Eighty-eight percent of the peak recordings occurred after the subjects started to move their mass forward and before the mass was forward and the swing started. With two exceptions peak recordings from skilled subjects appeared earlier in the batting swing than from unskilled subjects. The left pectoralis major (clavicular heads) of the skilled subjects showed markedly greater action potentials than those of the unskilled. The lateral heads of the left triceps brachii of unskilled subjects showed considerably greater action potentials than those of the skilled. The long heads of the left triceps brachii recorded the greatest action potentials in all subjects.

127. LEIPER, Jean Marion. A Course of Study Supplement for Physical Education in Small Elementary Schools of Western Canada. M. S. in Physical Education. 1962. 180 p. (M. G. Fox)

Existing elementary physical education curricula in Alberta, British Columbia, and Saskatchewan were studied. A syllabus was prepared giving information on inexpensive, home-made equipment, materials, and suggestions on methods for relatively untrained teachers in small, rural schools with restricted facilities. In the late summer, after talking with the teachers, 119 syllabi were distributed and 36 teachers completed evaluative questionnaires in the spring. Responses indicated a belief that a more varied and educational program resulted.

128. LEMEN, Mildred G. The Relationship between Selected Variables and Attitudes of College Women toward Physical Education and Certain Sports. Ph.D. in Physical Education. 1962. 244 p. (A. van der Smitsen)

A semantic differential scale with 11 pairs of polar adjectives was constructed for 11 activities. Reliabilities ranged from .61 to .93 and validities ranged from .48 to .92. The scales were administered to 1,840 women in required physical education classes at 20 colleges and universities randomly selected from five types of institutions in the United States. Questions concerning educational and social background were included. The attitudes were generally favorable and the primary components affecting favorable attitude were activeness and wholesomeness. Significant relationships were found between attitudes and certain social background factors, enjoyment of high school physical education, and

participation in recreation associations. Ability or skill was related to leisure participation and college women preferred individual sports.

129. McCONNELL, Sydney D. The Effects of Weight Training Compared with the Effects of Dynamic Tension on the Development of Strength and Motor Ability. M.A. in Physical Education. 1962. 51 p. (A. J. Wendler)

Forty-five high school boys were tested initially and at 3-month intervals for nine months on forearm flexion strength, forearm extension strength, 10-minute sit-ups, push-ups, jump and reach, 12-pound shotput, 50-yard sprint, and boomerang run. The weight-training, dynamic-tension, and control groups all showed differences significant at the .001 level between initial and final mean scores. The mean changes for the eight tests were in favor of the weight-training group and no negative effects on motor ability resulted from the dynamic-tension exercises.

130. McINTYRE, Martin Hugh. Reaction-Time and Response-Time Measurements in Children Afflicted with Cerebral Palsy. M.A. in Physical Education. 1961. 34 p. (G. M. Asprey)

Subjects with cerebral palsy (12 boys and 8 girls aged from 6 to 17 years) were matched with normal subjects in age, sex, and I.Q. and both groups were tested at the beginning and end of an 8-week rehabilitation program for the subjects with cerebral palsy. The mean differences between groups were at the .009 level before the program and at the .007 level of significance after the program for reaction time (both hands), response time (non-dominant hand), and speed of movement (both hands). The mean changes within the two groups were not statistically significant.

131. RAINES, Paul A. A Manual of Surgical Approaches and Programs of Exercise. Ph.D. in Physical Education. 1962. 176 p. (G. M. Asprey)

Simple programs of rehabilitative exercises were presented for patients following general, neurological, orthopedic, thoracic, and urologic surgery. Supplementary information was included concerning: ambulation aids and gaits, basic functional movement patterns, exercise apparatus, exercise progressions, flexibility exercise series, functional exercise activities, and general exercise series, along with muscle innervations, primary muscle actions, and ranges of joint movement.

132. SODAWASSER, Lloyd W. Baseball: Method of Throwing Ball from Outfield. M.A. in Physical Education. 1962. 27 p. (A. J. Wendler)

The times required by 20 high school boys, 14 to 18 years old, for high and low throws of 200, 225, and 250 feet; one-step and three-step throws of 175, 200, and 226 feet; and relay throws of 120 and 200 feet were measured. The low and one-step throws were significantly faster at the .001 level than the high and three-step throws.

133. WEINY, George A. The Effect of Physical Training During Adolescence upon the Ability to Improve Physical Fitness During Middle Age. M.A. in Physical Education. 1962. 42 p. (A. J. Wendler)

One group of nine men in sedentary occupations who had participated in strenuous, organized athletic activities in their youth and another group of 10 men in similar occupations who had never participated were tested before and after a 5-week physical fitness program. Both groups showed mean gains in the Carlson Fatigue Curve Test, pull-ups, push-ups, sit-ups, squat thrusts, shuttle run, and standing broad jump but the differences in mean gains between the two groups were not statistically significant (P 's ranged from .40 to .90).

134. ZOKAIE, Mahmoud. A Program of Professional Training in Physical Education for the National Teachers College of Iran. M.A. in Physical Education. 1962. 49 p. (L. E. Ailey)

A 3-year professional training program was prepared. Background materials included: country and climate, health and education, population and religion, folk arts and religion, leisure and recreation, government income, budget, facilities, National Olympic Committee, and social status of physical education teachers. Foundational materials for the curriculum included: goals of education in Iran, physical education objectives in Iran, general principles, and specific principles related to professional physical education in Iran.

University of Maryland, College Park, Maryland (G. Lawther)

135. ARRIGHI, Margarite A. A Study of the Effects of Competitive Basketball on the Motor Efficiency of College Women as Measured by a Selected Battery of Tests. M.A. in Physical Education. 1962. 63 p. (B. H. Massey)

Fifteen subjects were selected randomly from 45 varsity players and an equal control group was selected by the experimenter. The experimental group had basketball practice for 1.5 hours, three days a week for 3.5 months, and played 10 interscholastic games. Pre- and post-season tests were given to both groups in sit-ups, vertical jump, medicine ball throw, hand grip, 600-yard run-walk, 50-yard sprint, and squat-reach agility. The basketball group improved significantly on all tests except arm and grip strength but similar improvements by the control group nullified the significance of some of these gains.

136. BELZER, Edwin G., Jr. Effect of Physical Activity upon Body Image as Measured by an Anisokinetic Technique. M.A. in Physical Education. 41 p. (W. R. Johnson)

One group of physically active public elementary school boys showed no significant difference in the frequency of perceived distortion when compared with a group of relatively inactive boys of similar age. A third group of similar age showed no significant change in frequency of perceived distortion after seven weekly physical developmental clinic sessions of a remedial nature. The subjects' perceptions were influenced greatly by viewing themselves while wearing only gym trunks.

137. BOILEAU, Richard A. The Effects of Training, Utilizing Static, Concentric, and Eccentric Contraction on the Strength and Girth of Skeletal Muscle. M.A. in Physical Education. 103 p. (B. H. Massey)

Forty-four normally healthy male college students ranging in age from 17 to 20 were divided into four equal groups. The three experimental groups trained with static, concentric, or eccentric exercise programs on three days a week for seven weeks using five 6-second bouts with a 2-minute rest between bouts. Pre- and post-training measurements of height, weight, dominant arm girth, and isometric elbow flexion strength at angles of 173, 115, and 65 degrees were taken on three alternate days. The resistance used for training was two-thirds of the maximal pre-training tension at 173 degrees of elbow flexion. Only the control group failed to show statistically significant changes at the .05 level in elbow flexion strength and upper arm girth. After training, the experimental groups differed significantly from the control group at the .05 level but not from each other.

138. COCHRANE, Cornelius R., Jr. A Study of Intercollegiate Soccer Data in the United States from 1905 to 1961. M.A. in Physical

Education. 1962. 114 p. (M. H. Eyer)

Factual information as accurate and complete as possible was compiled from previous studies, NCAA Soccer Journals, and newspaper articles, and from correspondence and interviews with retired and charter members of the National Soccer Coaches Association. The report included a complete list of national championship teams, the annual champions, and year of organization of 21 collegiate soccer conferences, All-American teams (except for 1918), the officers of the three national college soccer organizations, and the NSCA honor award recipients since 1942. Thirty men coached college soccer teams for 20 or more years; 18 teams had consecutive winning streaks of 20 or more games; 11 college players earned berths on Olympic teams from 1924 to 1960.

139. ELLIS, Robert E. Observation of the Choice of Throwing Pattern of Third Grade Children. M.A. in Physical Education. 1962. 58 p. (J. H. Humphrey)

Observations were made of the throwing patterns of 76 third grade children in two Baltimore County elementary schools. An 8.5-inch playground ball was used in four dodgeball games in a target test with a 15-foot throw at a 12 by 36-inch rectangular target. The overarm throw was the first choice of both boys and girls in both situations, the sidearm throw was second, and the underarm throw was last.

140. JACKSON, Walter Merwin. A Study of the Recreational Pursuits of American Presidents. M.A. in Physical Education. 1962. 118 p. (M. H. Eyer)

The 34 Presidents of the United States were treated individually in terms of the variety, extent, and effect of political pressures on their recreational pursuits. Among 36 different forms of recreation, the most prevalent were, in order: horseback riding, fishing, walking, hunting, reading, swimming, golfing, and socializing.

141. KLINE, Milton H. A Study of the Interest, Youth Activities, and Attitudes of a Group of Boys Participating in Junior High School Interscholastic Athletic Competition as compared to a Group of Non-Varsity Participants. M.A. in Physical Education. 1962. 85 p. (M. H. Eyer)

Questionnaires concerning interests, activities, and attitudes were administered to 132 varsity athletes and a stratified random sample of 132 non-varsity participants at three junior high schools in Prince Georges County, Maryland. No apparent difference was found between the two groups. The most frequent reasons for engaging in sports given by both groups were: for enjoyment, to become a better player, and to keep physically fit. The varsity athletes did not specialize in sport to the exclusion of other interests and activities.

142. KUJAMA, Charles Cameron. A Study of YMCA Club Program and Organization for Boys Nine to Eleven Years of Age, Called Gra-Y, in Twenty Metropolitan YMCA's of the United States. M.A. in Recreation. 1962. 165 p. (E. E. Harvey)

Information was collected by questionnaires and interviews. The Gra-Y clubs most often met in public schools on weekday afternoons with part-time paid leaders, many of whom were college students undergoing in-service training. Four-fifths of the clubs required YMCA membership and the program was increasing rapidly.

143. LUCAS, John Apostol. Baron Pierre de Coubertin and the Formative Years of the Modern International Olympic Movement 1883-1896. Ed.D. 1962. 222 p. (M. H. Eyer)

The years 1883-96 encompassed the greatest material gain and social

progress in modern Western civilization. No other era in the nineteenth century could have produced the modern Olympic Games. Increased mechanization and new wealth, educational reform, revival of liberal democracy, systems of physical culture, and social Darwinism, together with the singular dedication of the idealistic Frenchman and his associates, all contributed to the success of the Baron's efforts and the germination of the most comprehensive social organization in modern times.

144. MARLEY, William P. The Comparative Effectiveness of Isometric Exercise and Isotonic Exercise in the Development of Muscular Strength, Endurance, and Girth. M.A. in Physical Education. 1962. 80 p. (M. H. Eyster)

Three groups, each of 12 subjects, were used. One group trained with isometric exercises, the second group used isotonic exercises, and the third (control) group participated in regular physical education activities. Subjects were tested several times before and after the 10-week training program. Elbow flexion strength was measured with a cable tensiometer. Upper arm girth was measured with a metal tape. A 26.75 pound dumbbell was used in the isometric and isotonic endurance tests. Isometric and isotonic exercise appeared equally effective in developing strength but isotonic exercise was more effective in developing muscle size, although size as measured was not necessarily proportional to strength. Each type of exercise was more effective in developing the related type of endurance.

145. McCANTS, Robert George. The Effects of A Selected Trampoline Program on the General Motor Performance of A Group of Mentally Retarded Children. M.A. in Physical Education. 1962. 67 p. (W. R. Johnson)

The subjects were divided into two groups on the basis of a vertical jump test and other relevant information provided by the school psychologist. Three other motor performance tests were also given before and after the experimental group participated in an 8-week trampoline program. The results of t tests indicated that the groups were not significantly different originally but exhibited differences beyond the .05 level in favor of the experimental group at the end of the study.

146. MELLOTT, Charlotte Janney. An Annotated and Cross Referenced Bibliography of Resource Books in Selected Areas of Physical Education for Junior and Senior High School Teachers Published in the United States from January 1950 through 1960. M.A. in Physical Education. 1962. 126 p. (M. H. Eyster)

Of 200 books 168 were annotated and cross referenced according to their contribution to scientific bases and therapy, curriculum, administration and equipment, principles and guidance, and athletic management. The books were ranked in the areas and indices of authors, editors, and publishers were prepared for the annotated and non-annotated books.

147. MEYERS, Roger L. An Analysis of Spare Time Activities in Relation to Physical Fitness of a Group of Junior High School Boys. M.A. in Physical Education. 1962. 60 p. (J. H. Humphrey)

A fitness test was given to 510 junior high school boys. The 50 scoring highest and the 50 scoring lowest were surveyed by a questionnaire dealing with spare time activities. Both groups participated about equally in intellectual activities. The high ranking group participated in a greater variety and to a greater extent in more active types of activity. The high ranking group participated in more social activities and was definitely more active in committees, clubs, and student council.

148. ROSEN, Ira. A Historical Study of the Curriculum of Panzer

College of Physical Education and Hygiene. M.A. in Physical Education. 1962. 144 p. (M. H. Eyer)

Panzer College was one of the last exclusively physical education teacher training institutions in the United States. It was accredited by the State of New Jersey from 1917 to 1958 when the Panzer School of Physical Education and Hygiene became a part of Montclair State College. Courses were added in the sciences, social sciences, general academic areas, and education to implement the most advanced theories of physical education with some decreased emphasis in athletics, sports, and games. Dr. Margaret C. Drown was the guiding force and conducted a vigorous program to improve professional standards.

149. SMITH, Charles D. A Case Study Analysis of the Pattern of Adaptive Changes in Brachial Arterial Blood Pressure and Pulse Rate During a Treadmill Training Period and a Subsequent Sedentary Period. M.A. in Physical Education. 1962. 127 p. (B. H. Massey)

Two experimental and two control subjects were measured daily during the pre-training phase and on Monday, Wednesday, and Friday during the training and sedentary phases. Systolic and diastolic blood pressures were taken by auscultation and pulse rates were recorded with a Sanborn Twin-Viso Recorder with an Infracor attachment. The subjects were measured in a supine position after 15 minutes of rest and after a one-minute step test. The experimental subjects were measured after a near-exhaustive treadmill run during the training phase. Arterial blood pressure showed no consistent changes. Post-treadmill pulse rates were highly related to the duration of the run. The resting and post-step test pulse rates show slight but consistent decreases during training and gradual increases during the sedentary period, in contrast to the control subjects. The post-treadmill run pulse rates decreased steadily as training progressed. Pulse pressure measurements showed consistent changes during the training and sedentary period for one experimental subject but not for the other or the control subjects.

150. TAYLOR, Charles Wimburt. A History of Intercollegiate Athletics at Franklin and Marshall College. M.A. in Physical Education. 341 p. (M. H. Eyer)

The 12 intercollegiate sports were divided according to sport seasons. The development of the sports and the athletic policies was treated chronologically. Several conclusions were drawn concerning the past and present athletic participation and administration at the College.

University of Michigan, Ann Arbor, Michigan (E. F. Zeigler)

151. DORNBOSS, Sanford J. A Survey of Senior High School Intramural Sports Programs for Boys in Greater Grand Rapids, Michigan. M.A. in Physical Education. 1962. 77 p. (E. F. Zeigler)
152. FAULKNER, John A. The Effect of Cardiac Conditioning on the Anticipatory Exercise and Recovery Heart Rates of Young Men. Ph.D. in Physical Education. 1962. 138 p. (P. A. Hunsicker)
153. GILBERT, Robert K. A Survey of Physical Education Grading Systems and Related Administrative Practices in Selected Suburban and Metropolitan Elementary Schools. M.A. in Physical Education. 1962. 64 p. (P. A. Hunsicker)
154. HELMS, William G. A Study of Static Dynamometer Strength and Its Relationship to Selected Indices of Growth and Development.

Ph.D. in Physical Education. 1962. 101 p. (P. A. Hunsicker)

155. KINSEY, Dan C. Health Activities at Oberlin and Other Ohio Colleges to 1850. Ph.D. in Physical Education. 1962. 220 p. (C. Eggertsen)
156. LEWIS, George B. The Relation of Specific Interests to Selected Vocational Groups. M.A. in Physical Education. 1962. 142 p. (E. F. Zeigler)
157. PIERRO, Armstead A. A History of Professional Preparation for Physical Education in Selected Negro Colleges and Universities, 1924-1958. Ph.D. in Physical Education. 1962. 352 p. (E. F. Zeigler)
158. PLAGENHOEF, Stanley C. An Analysis of the Kinematics and Kinetics of Selected Symmetrical Body Actions. Ph.D. in Physical Education. 1962. 102 p. (W. Dempster and P. A. Hunsicker)
159. VANDERZWAAG, Harold J. Delineation of an Essentialistic Philosophy of Physical Education. Ph.D. in Physical Education. 1962. 229 p. (E. F. Zeigler)

University of Minnesota, Minneapolis 14, Minnesota (E. M. Jaeger)

160. MARASCO, Jean. Loop Films to be Used as a Visual Aid in Teaching Beginning and Intermediate Skiing. M.A. in Physical Education. 1962. 77 p. (H. Slocum)

The 16 beginning and intermediate skiing skills most desirable for presentation in loop films were selected by a jury of nine certified ski instructors and photographed with 16mm colored movie film. These were edited into 21 loop films. An analysis of each loop film was prepared on the basis of publications by Lash, Palmedo, and Shaeffler. The suggested progression was based on the above sources plus a sequence recommended by the Central United States Ski Association.

Montana State University, Missoula, Montana (W. C. Schwank)

161. BROWN, Ella Corinne. A Proposed Core of Professional Recreation Courses for Undergraduate Students. M.A. in Education. 1962. 98 p. (K. V. Lottick)

Course offerings listed in catalogs of 61 institutions reporting major curriculums leading to an undergraduate degree in recreation were surveyed. A stratified random sampling of major curriculums was synthesized into a check list. A jury of recreation education authorities recommended by District Representatives of the National Recreation Association rated the courses as essential for basic, adequate, or highly developed programs. The Montana State University program was evaluated and recommendations were made.

New York University, New York 3, New York (R. A. Weiss)

162. BADEN, Jane Rose. An Experimental Evaluation of Two Methods in a Cancer Teaching Program for Fourth-Year Dental Students. Ph.D. 1962. (H. F. Kilander)

Two groups of students, 19 in each, were equated on the basis of a test constructed to measure pre-course and post-course knowledge concerning oral and head-and-neck cancer. One group was taught by the lecture-

laboratory and the other by the lecture-film method. Analysis of variance, t test, and chi square test results showed no significant difference between the methods. Pearson r correlations between test scores and academic averages showed that in neither group was learning related to academic averages.

163. GORDON, Alan Henry. A Technique for Evaluating the Resting Tension in Superficial Muscles (An Application of the Instrument to Certain Flaccid Muscles in Patients). Ph. D. 1962. (R. A. Weiss)

A technique for measuring muscle tone (resting muscle tension) with a new instrument, the myotonometer, was developed and the instrument was evaluated. The subjects included 20 normal, 70 atypical, and 10 obese individuals. Instrumental reliabilities ranged from .92 to .99. The criteria for instrumental validity were a normal muscle versus its flaccid counterpart and varying degrees of stretch in a normal muscle. The biserial r 's between normal versus flaccid muscles yielded significant validity coefficients ranging from .48 to .60. Several analyses of variance showed that as a muscle was stretched its tension increase was curvilinear, that obesity interfered with instrumental accuracy, and that moderately flaccid muscles undergoing physical therapy recovered more rapidly than severely flaccid muscles undergoing physical therapy.

164. RUBIN, Isadore. A Critical Evaluation of Certain Selected Operational Principles of Sex Education for the Adolescent. Ph. D. 1962. (H. F. Kilander)

Principles were identified from publications since 1935 by persons with professional standing. Criteria for evaluating the principles were established and the principles were evaluated in the light of basic goals of democratic education, sex, marriage and family life education, adolescent development, and in the light of scientific findings in the appropriate fields of knowledge since the publication of the first Kinsey report in 1948. Seven operational principles aligned with sound theory were developed covering the scope of sex education, its social framework, its extent, emotional re-education aspects, and ethical framework.

165. SMITH, Bettie M. An Evaluation of the Health Education Program in the Accredited Negro High Schools of Georgia. Ed. D. 1962. (H. F. Kilander)

A normative survey was made to determine local factors influencing present practices in these schools. Principles of health education were formulated from authoritative literature and compared with present practices. The evidence indicated that health education did not occupy a superior position in the curricular offerings in spite of the necessary framework for health education in the secondary schools of Georgia, that health education was obliterated from the curriculum when the unit in health was deleted from the nine units required for graduation, and that the teachers were not prepared academically to teach health.

North Carolina College, Durham, North Carolina (R. E. Townes)

166. CAMPBELL, Charles G. A Study to Determine the Physical Fitness Status of the Male Students Enrolled in First and Second Year Classes at North Carolina College. M.S. in Physical Education. 1962. 51 p. (R. E. Townes)

The J.C.R. Physical Fitness Test was administered to 169 male students enrolled in the first semester course in physical education and 100 male students enrolled in the fourth semester course. This sample represented

two-thirds of the total enrollment in these classes. Analysis of the results showed that the difference between the two groups was significant at the .01 level of confidence, with the exception of arm and shoulder strength.

167. JONES, Norma J. A Study to Determine the Physical Fitness Status of Women Students Enrolled in the Service Program in Physical Education at North Carolina College. M.S. in Physical Education. 1962. 53 p. (R. E. Townes)

The Oregon Motor Fitness Test for Girls was administered to 240 women students enrolled in the first and second year classes in physical education. It was found that after one semester of physical education students scored higher on all components measured than they did after two, three, and four semesters. This sample represented two-thirds of the students enrolled in the required classes for women.

168. REID, Heyward W. An Evaluation of Attitudes Toward Physical Education and an Appraisal of the Personnel, Facilities, and Program in Selected Junior High Schools in South Carolina. M.S. in Physical Education. 1962. 65 p. (R. E. Townes)

The Wear Attitude Inventory and a modification of the LaPorte Score Card were used to secure the data from 10 junior high schools in South Carolina. Analysis of the data revealed that both principals and physical education personnel showed a favorable attitude toward physical education. These principals and personnel were more in agreement in relation to the emotional attributes of physical education than the social attributes. The study indicated a lack of facilities and equipment in these junior high schools.

169. REYNOLDS, Annice F. Variation in Program Contents' Effect on Motor Ability Development of Freshman Women at Knoxville College. M.A. in Physical Education. 1962. 48 p. (R. E. Townes)

The Newton Motor Ability Test was administered to three groups prior to instruction in formal, informal, and formal-informal physical education activities. At the termination of twenty-four 50-minute class periods, the subjects were retested. The t test for matched groups by the direct-difference method was applied to determine the significance of any differences. The differences between the initial and final test were significant at better than the .01 level, and "informal" content was the most effective.

170. THOMAS, Willie C. A Study of the Personal Distance Between Seniors and Athletes and Seniors and Scholars in Selected High Schools in North Carolina. M.S. in Physical Education. 1962. 58 p. (R. E. Townes)

The sample consisted of 141 seniors, 45 male athletes, and 45 male scholars in four selected high schools in North Carolina. The Cowell Personal Distance Ballot, a form of sociometric technique, was used to secure the data. Despite minor differences, the seniors in these four high schools, as a group, accepted both athletes and scholars either "as a member of my gang," or "on my street as a next door neighbor." There was no appreciable difference between the acceptance of athletes and scholars in these schools.

171. WILLIAMS, Clyde L. The Personal Distance Between High School Athletes and Athletes of National Prominence. M.S. in Physical Education. 1962. 63 p. (R. E. Townes)

The sample consisted of 100 white and 100 non-white athletes in the state of Georgia, and the athletes of national prominence consisted of 40 basketball, baseball, football, and track and field contestants. The Cowell

Personal Distance Ballot was the instrument used to secure the data. Group comparison revealed that for every sport category, the non-white was more willing to accept athletes of national prominence than the white was willing to accept white athletes of national prominence. It was recommended that similar studies be conducted in other geographical areas.

Ohio State University, Columbus 10, Ohio

(D. K. Mathews)

172. CHADWELL, Ray. Instructional Television in Physical Education. M. A. in Physical Education. 1962. 93 p. (C. G. Hixson)

The purpose of this study was to observe and react to physical education lessons via television. The conclusions were that: television can present activities to supplement physical education programs, activities can be televised to schools with problems of space and equipment, and television can benefit administrators unable to have organized physical education.

173. HAGERMAN, Fredrick C. A Comparison of Oxygen Debts in Swimming the 400 Yard Free-Style While Using the Open and Closed Turns. M.A. in Physical Education. 1962. 38 p. (D. K. Mathews)

Net oxygen debts were determined on five male subjects in the post-absorptive state to permit comparison. No significant difference was noted between the two turns.

174. HARBACH, Dale Calkins. The Effect of Maximum Isometric Contraction on the Temperature of the Biceps Brachii Muscle. M. A. in Physical Education. 1962. 20 p. (D. K. Mathews)

The internal temperatures of the biceps brachii of seven male college students were recorded before and immediately following a 6-second maximal isometric contraction. The thermal increase was statistically significant.

175. JOHNSON, Prescott Kent. The Effects of Moderate Altitude on Exercise. Ph. D. in Physical Education. 1962. (D. K. Mathews); Eleven male athletes performed mild work twice at 720, 620 and 520 mm. Hg. in an altitude chamber. No significant difference in oxygen cost was found; minute ventilation during exercise increased incrementally and significantly as barometric pressure was reduced.

176. LOGSDON, Bette Jean. A Comparison of Two Methods of Developing Physical Fitness in Fourth and Fifth Grade Girls. Ph. D. in Physical Education. 1962. 89 p. (M. Mordy)

Two methods of augmenting the physical fitness level of fourth and fifth grade girls were studied. One program used calisthenic exercise while the other stressed basic skills. The purpose was to show how the practice of basic skills could influence physical fitness while increasing the performance level of those skills.

177. MERDER, Jan Keith. The Effect of an Exhaustive Isometric Exercise on the Temperature of the Biceps Brachii Muscle. M. A. in Physical Education. 1962. 23 p. (D. K. Mathews)

Internal temperatures were recorded from the biceps brachii of seven male college students before and immediately following an exhaustive exercise on an ergograph. The thermal differences were significant.

178. SLUSHER, Howard Sidney. The Overt and Covert Responses of Football Players to a Test of Sportmanship. Ph. D. in Physical Education. 1962. 106 p. (M. Mordy)

The overt and covert responses of selected football players, as indicated by an oral examination and an electronic psychometer, were studied and compared to a selected dimension of personality determined by items from the MMPI. The sportsmanlike individuals selected more sportsmanlike responses overtly than unsportsmanlike individuals; however, no difference was found between groups in relation to the covert responses. Within each group, individuals exhibited a significant difference in relation to the excitation demonstrated to the selected responses as opposed to the ideal.

179. STANLEY, John David. A Survey of the Advantages and Disadvantages of Using Educational Television in Physical Education. M.A. in Physical Education. 1962. 114 p. (C. G. Hixson)

Strength-test comparisons between groups taught conventionally and by television, observations of other television programs in physical education, and surveys of students and teachers were made to determine the effectiveness of using educational television in physical education. Evaluations by all techniques used indicated that the potential for using educational television in physical education was very good.

180. TREKELI, Marianna. Gertrude Evelyn Moulton, M.D.: Her Life and Professional Career in Health and Physical Education. Ph.D. in Physical Education. 1962. (B. L. Bennett)

An illustrated biographical study of Dr. Moulton presenting her philosophy, her contributions to the profession, her influence on students, and her contributions to the growth of the Women's Physical Education Department at Oberlin College. Sources included taped interviews with Dr. Moulton.

181. WILGUS, William Eugene. A Comparison of Efficiency Between Aerobic and Anaerobic Work. Ph.D. in Physical Education. 1962. 47 p. (D. K. Mathews)

Oxygen consumption was determined for seven subjects riding a bicycle ergostat under three pace conditions; slow-fast, fast-slow, and steady. The last was the most efficient.

Ohio University, Athens, Ohio

(J. Mason)

182. GUNDERSHEIM, Julius. A Comparative Study of Various Effects of Physical Education Upon Fifth and Sixth Grade Boys and Girls. M.S. in Physical Education. 1962. 121 p. (J. Mason)

Forty-one grade 5 and 6 boys and girls who had had an organized physical education program at Rufus Putnam Elementary School in Athens, Ohio, for 5 and 6 years were compared with 50 similar students from East Elementary School in Athens, Ohio, who had had one year of organized physical education. The mean differences between groups were not statistically significant for the Indiana Motor Fitness Test, McCloy's Strength Test, and McCloy's General Motor Capacity Test. Students with continuous physical education were significantly superior at the .01 level in mean Motor Quotient (McCloy) and at the .05 level in Motor Educability (Iowa-Brace). The California Test of Personality was also administered at the Rufus Putnam Elementary but no significant correlation with the Indiana Motor Fitness Test, Motor Quotient, or Iowa-Brace Test of Motor Educability resulted.

183. JOHNSON, Mariann L. An Evaluation of the Teacher Education Program in Physical Education for Women at Ohio University. M.S. in Physical Education. 1962. 81 p. (J. Mason)

The extent to which the program met the state of Ohio Department of Education teacher certification requirements was determined. Interviews

with directors of women's teacher-education programs at selected schools in Ohio and West Virginia indicated that the program at Ohio University was comparable in selection and recruitment, physical education, education and basic science requirements, methods of applying theory to practice, outdoor facilities, scheduling and follow-up, and staff and administration. The majority of women graduates from 1952-61 indicated by questionnaire that the program was strong in dance, team sports, variety of theory and skills learned, and student teaching experience but needed more gymnastics and tumbling, more elementary training, a tests and measurement requirement, and observation by staff members during student teaching.

184. SHEPHERD, Sharon Ann. An Investigation of the Women's Track and Field Program of Selected Teacher Education Institutions with a Proposed Program of Track and Field for Women. M.S. in Physical Education. 1962. 112 p. (J. Mason)

Review of the literature indicated a vast amount of information concerning men's track and field and a very limited amount concerning women's track and field. Questionnaire returns from selected institutions preparing women physical educators indicated that 58.8 percent of the respondents offered a unit in track and field for girls majoring in physical education and the events most frequently taught were standing broad jump, softball throw, and basketball throw. A suggested program of track and field events was prepared with information concerning basic fundamentals and necessary techniques for performing each track and field event.

185. WEISBEIN, Harold. A Study of Soccer with Novice Groups. M.S. in Physical Education. 1962. 69 p. (J. Mason)

After obtaining permission from the superintendent of schools in Athens County, Ohio, and the approval of school administrators in 5 secondary schools, a 2-hour soccer clinic program was presented in the selected schools. Clinic participants indicated in a short questionnaire that their order of interest was: participation, game and instructional films, demonstrations, question and answer periods, and history of soccer. On this basis, moving participation from last to a position preceding the question and answer period was recommended, together with providing an opportunity for participation early in the new school year and following a standard progression for teaching novices the game.

186. WISE, Robert D. An Evaluative Study of the Physical Education Program in the Secondary Schools in Alliance. M.Ed. in Physical Education. 1962. 83 p. (J. Mason)

Evaluative criteria developed by the Ohio Association of Health, Physical Education, and Recreation and published by the State Department of Education were applied to the physical education program for boys in the three secondary schools in Alliance, Ohio. Evaluation was based on interviews with physical educators and administrators and on observation of the program in operation. The teachers complied favorably with the suggested standards for qualification but the program was limited primarily by inadequate facilities and equipment.

University of Oregon, Eugene, Oregon

(M. S. Poley)

187. ATTOE, Carol. Development of a Film Strip for Use in Teaching Canoeing. M.S. in Physical Education. 1962. 64 p. (J. Woodruff)
188. BATEMAN, Nancy Jean. The Effect of a Course in Elementary Swimming on the Strength and Flexibility of the Shoulder. M.S.

in Physical Education. 1962. 72 p. (M. S. Poley)

189. BISHOP, William R. An Analysis of Specific Biological Concepts in Health Education Textbooks Concerning the Use of Tobacco Together with Determinations of the General Trends in the Presentation of Concepts from 1931 to 1961. Ph. D. in Health Education. 1962. 211 p. (H. B. Haar)

A documentary analysis was performed on 100 health textbooks, secondary and college, published between 1931-1961. Sections concerning the use of tobacco were analyzed, utilizing as a criterion a general review of scientific research evidence concerning the effects of tobacco on living systems. Concept presentations were evaluated in terms of frequency of mention together with a classification of each concept according to concordance, insufficient evidence, confliction, ambiguity, or persuasion. The analysis revealed a tendency away from general dogmatism, bias, and persuasion—often noted in the early years—toward improved quality and quantity of documentation with scientific evidence together with more extensive integration of basic physiological and anatomical concepts with health principles.

190. BROEKHOFF, Jan. Effect of Physical Education on the Physical Fitness of College Freshman Men and the Motor Fitness of College Freshman Women. M.S. in Physical Education. 1962. 71 p. (H. H. Clarke)

191. BURT, John J. Factor Analysis of Potential Maturity Indicators of Thirteen Year Old Boys. Ed. D. in Physical Education. 1962. 125 p. (H. H. Clarke)

Fifty-one tests of physical dimensions, physique type, strength, and motor ability were related to the skeletal age and pubescent assessment of 13 year old boys. The 33 tests that correlated significantly with the maturity criteria were intercorrelated and factor analyzed by the principal-axis method. A General Maturity Factor was found, which was almost colinear with skeletal age ($r = .961$). The principal axis factors were rotated revealing the following three factors which showed a similar degree of evaluation with skeletal age: .601, -.544, and .527. The rotated factors were identified as body bulk, strength lag, and linearity of bone structure. A standard score regression equation for predicting the General Maturity Factor was computed from leg length and chest girth X height ($P = .951$).

192. DROWATZKY, John N. and MADARY, Charles J. Evaluation of the Physical and Motor Fitness of Boys and Girls in the Coos Bay, Oregon School District. M.S. in Physical Education. 1962. 211 p. (H. H. Clarke)

193. HAMILTON, Rose Marie. An Investigation of the Relationship Between Improvement in Physical Fitness and Academic Grade Point Average in Junior High School Girls. M.S. in Physical Education. 1962. 84 p. (M. S. Poley)

194. HANSEN, Alta Joanne. An Electromyographic Study of the Effects of Superficial Applications of Heat and Cold upon Relaxation. Ph. D. in Physical Education. 1962. 48 p. (M. S. Poley)

Electrical activity of resting biceps brachii and triceps brachii muscles in 42 college women was recorded before and after the application of hot and cold packs. Two recording sessions were scheduled for each subject and the remaining one-half received the hot pack. The alternate thermal pack was applied at the second session. The data were analyzed by measuring the total distance traveled by the pen-writer in three selected

segments of each phase of the recordings. Increased relaxation of the biceps brachii and triceps brachii muscles, significant at the .01 and .05 levels of confidence, respectively, occurred as a result of the application of cold. Decreased relaxation of the triceps brachii occurred as a result of the application of heat with significance at the .02 level of confidence but application of heat had no effect upon relaxation of the biceps brachii muscle.

195. HARRISTHAL, Joann Winifred. A Student Reaction Inventory for Teachers in the College Women's Physical Education Service Program. Ph. D. in Physical Education. 1962. 109 p. (M. F. Dougherty)

Seventy-seven University of Oregon women students enrolled in the physical education service program participated in tape recorded informal discussions regarding effective and ineffective characteristics or behaviors of physical education teachers. Three categories were discussed: teaching methods and techniques, teacher-student relationships, and personal characteristics. A second group of 90 University of Oregon women students evaluated 334 statements transcribed from the tape recordings. Each statement was rated on a five point basis as to how well it described effective or ineffective teaching. The 50 items that were scored as most descriptive of effective teaching and the 51 items that were scored as most descriptive of ineffective teaching were retained for the final instrument. The highest ranking statements in the effective characteristics related to teacher's knowledge and the ability to convey the subject to the students. The most ineffective characteristics related to teacher impatience with learners' mistakes and a lack of interest in the subject being taught. The instrument was developed to provide for an expression by the students of their opinions of the instructor's strengths and weaknesses to guide self-improvement of the in-service teacher.

196. HINDMARCH, Robert. Significance of Physique, Maturational, Body Size, Strength, Motor Ability, and Reaction Time Characteristics of Eight-Year Old Boys. Ed. D. in Physical Education. 1962. 189 p. (H. H. Clarke)

Twenty-two tests of physique, maturity, body size, strength, motor ability, and reaction time were administered to 92 eight-year old Caucasian boys. On the basis of each of 14 growth criteria, high and low groups were formed (24 boys in each) and contrasted by comparison of means on the experimental tests. Among the results were the following: boys of different physique types were significantly different in skeletal age, Strength Index (Rogers), and standing broad jump; mature boys by skeletal age were larger in body weight, height, lung capacity, upper arm girth, buttocks girth, and thigh girth, and stronger in gross strength than immature boys, and boys who had greater gross strength, as measured by Strength Index and average of 11 cable-tension tests, were more mature and had better motor ability scores than weaker boys.

197. MERTLER, Carol S. The Relative Effectiveness of Starting Distances on Elementary Archers. M.S. in Physical Education. 1962. 74 p. (J. Woodruff)

198. NELSON, Jack L. An Analysis of the Effects of Applying Various Motivational Situations to College Men Subjected to a Stressful Physical Performance. Ed. D. in Physical Education. 1962. 129 p. (H. H. Clarke)

Ten motivational situations were applied to a stressful physical performance involving exercise to the point of exhaustion on an elbow flexion ergograph. The subjects were 25 college men selected by random numbers for each of the ten motivational situations. The motivational situations

which produced the least work on the ergograph were normal instructions, expressed interest of the service course instructor, and verbal encouragement. Greatest ergograph work resulted from individual competition, relation to Air Force space program, and ego-involvement (told junior high school boys did 60 repetitions, a fictitious and impossible goal). Between these extremes were competition with Russians, presence of an observer, a realizable goal, and group competition. A parallel in results occurred throughout in terms of the amount of work done, the strength decrement 30 seconds after exercise, and strength recovery for 12-1/2 minutes.

199. PATTEN, Charles A. Attitude Changes in Male Students of the University of Oregon after Five Terms of Physical Education. M.S. in Physical Education. 1962. 62 p. (W. Brumbach)

200. ROSS, William D. Ergometric Relationship Between Cranking and Pedalling Exercises. Ph.D. in Physical Education. 1952. 70 p. (P. O. Sigerseith)

The relationship between total work output during cranking and pedalling bouts of 50 seconds performed on an adapted Kelso-Hellebrandt ergometer at maximum speed against a resistance sufficiently severe to cause a drop-off in performance rate was determined on 30 college age subjects. A low relationship between strength and endurance (in terms of work output) was indicated by a correlation of .384 between cranking strength and pedalling ergometric scores, of .483 between cranking strength and cranking ergometric scores, of .385 between pedalling strength and cranking ergometric scores, and of .143 between pedalling strength and pedalling ergometric scores. That work output is predominately a function of specific factors rather than a general factor was indicated by a coefficient of correlation of .449 between cranking and pedalling ergometric test scores. A partial coefficient of correlation of .392 between cranking and pedalling ergometric scores when the effect of cranking and pedalling strength scores was held constant indicated that the effect of differences in strength, as a factor in the variance of work output, was minor.

201. STEEN, Donald A. The Effects of Four Selected Service Courses on the Physical Fitness Level of Post-Developmental Course Students at the University of Oregon. M.S. in Physical Education. 1962. 60 p. (W. Brumbach)

202. STREHLOU, Gene P. A Survey of Grant County, Oregon, Elementary School Children with the Kraus-Weber Test of Minimum Muscular Fitness. M.S. in Physical Education. 1962. 60 p. (W. Brumbach)

203. STUTTIE, Sandra. A Comparison of the Cross-Education Strength Gains Resulting from Two Selected Methods of Strength Training. M.S. in Physical Education. 1962. 104 p. (M. S. Poley)

204. VAN ANNE, Nancy M. An Electromyographic Study of the Relationship Between Neuromuscular Hypertension and Flexibility in College Women. Ph.D. in Physical Education. 1962. 73 p. (M. S. Poley)

Forty college women were tested myographically for a period of 45 seconds for the presence of residual nervous tension in the biceps femoris, the gastrocnemius, and the pectoralis major muscles and were measured for flexibility at the hip, ankle, and shoulder joints. The coefficient of correlation between flexibility at the hip joint and residual tension in the biceps femoris muscle was -.14, between gastrocnemius muscle was

-.25, and also between flexibility at the shoulder joint and residual tension in the pectoralis muscle. None of the correlations were significant. As all the coefficients were negative a trend toward a reduced range of motion in the presence of residual tension was indicated. The majority of the subjects, who were randomly selected, showed only a slight degree of residual tension and none had a marked degree. Further study using subjects who have a considerable amount of residual tension seemed desirable.

205. VOWLES, Ann Elizabeth. A Study on the Development of the Norms for the Revised Oregon Motor Fitness Test Battery for Junior and Senior High School Girls. M.S. in Physical Education. 1962. 117 p. (M. S. Poley)

Pennsylvania State University, University Park, Pennsylvania

(E. A. Gross)

206. BURNS, Patricia L. The Effect of Physical Practice, Mental Practice, and Mental-Physical Practice on the Development of a Motor Skill. M.S. in Physical Education. 1962. 56 p. (J. D. Lawther)
207. DOCHERTY, Ethel M. The Developmental Progress of Low-Skilled College Women in a Required Physical Education Program. M.S. in Physical Education. 1962. 94 p. (J. D. Lawther)
208. GENSEMER, Robert E. The Effect of a Full Meal on an Immediately Following Bout of All-Out Exercise. M.S. in Physical Education. 1962. 106 p. (J. D. Lawther)
209. GOLDMAN, Myra Frances. The Effects of Certain Factors on the Rifle Marksmanship Abilities of College Women. M.S. in Physical Education. 1962. 53 p. (J. D. Lawther)
210. GODLASKY, Charles Andrew. The Development of Fitness in College Women. D.Ed. in Physical Education. 1962. 109 p. (J. D. Lawther)
211. LEFRE, Ralph, Jr. Actual and Self-Perceived Socio-Economic Status of Superior High School Football Players in Pennsylvania. M.S. in Physical Education. 1962. 57 p. (J. D. Lawther)
212. MURRAY, John L. Effects of Training in Precisely Prescribed Resistance Exercise on Swimming the Crawl Stroke. M.S. in Physical Education. 1962. 131 p. (J. D. Lawther)
213. REEVES, John A. A Study of Various Types of Balance and Their Relationship to Swimming Endurance and Speed. M.S. in Physical Education. 1962. 88 p. (J. D. Lawther)
214. ROCKWELL, Marian H. The Effect of Menstrual Cycle on Cardiovascular and Muscular Efficiency of College Women. M.S. in Physical Education. 1962. 75 p. (J. D. Lawther)
215. SINGER, Norman Robert. Factors Influencing Male Students in Their Choice of an Activity in the Service Program. M.S. in Physical Education. 1962. 111 p. (J. D. Lawther)
216. VAN VALKENBURG, Shirley. Effects of Special Drills in Softball

Batting and College Women's Norms in Batting. M.S. in Physical Education. 1962. 64 p. (J. D. Lawther)

217. WILSON, Judith. Status of College Women in Selected Fundamental Skills. M.S. in Physical Education. 1962. 78 p. (J. D. Lawther)

San Diego State College, San Diego 15, California (P. Governali)

218. BEASLEY, John Mavin. A Survey of Student Reactions to a Basic College Health Course Taught Through Closed-Circuit Television. M.A. in Physical Education. 1962. 142 p. (R. Grawunder)

Three hundred twelve San Diego State College students in 10 sections were taught an introductory college health education course through closed-circuit television. Their reactions were secured anonymously by questionnaire. The findings indicate that these students generally had a high regard for the basic health course as taught through closed-circuit television because of an apparent increased student understanding of health concepts, the high degree of benefit which students attributed to the course, and the favorable attitude of students toward the course after its completion. The feelings of students toward future television courses were inconclusive. Nonetheless, comparison of the students' initial attitude toward instructional television and their final attitude revealed a generally improved response.

219. DAVIS, William Franklin. The Development of Competitive Athletics in the Grossmont Union High School District. M.A. in Physical Education. 1962. 163 p. (W. Terry)

Primary and secondary research sources were used to trace the evolution of competitive athletics from the establishment of the Grossmont, California, Union High School District to the present, a period of 40 years. Attention was given to the historical environment and to state and national trends in athletics. Detail included—development of the Department of Athletics and the various activities in the program; the role of competitive athletics in the school and community; the contributions to the program of former coaches and administrators; the attitude toward athletics of students, faculty, administration, school boards, and community; whether or not the athletics program has met community needs; and possible future developments in competitive athletics in the district.

220. EARLY, John Bernard. A Survey of the San Diego Unified School District's Head Varsity Coaching Personnel, 1960-61. M.A. in Physical Education. 1962. 80 p. (L. Harper)

Head varsity coaches of all sports in the nine senior high schools of the San Diego, California, Unified School District were surveyed by questionnaire for data about teaching assignments, educational background, and athletics experience. Administrators of the program of athletics, intramurals, and physical education were those who coached baseball, basketball, football, track, and wrestling. A significant number of these head varsity coaches held the master's degree; most of the remaining few were candidates for this degree, and many were head coaches of the varsity sports in which they had participated. Undergraduates in physical education who desire to coach should acquire the skills, knowledges, strategies, and attitudes needed for teaching and conducting interscholastic sports, participate on a college varsity team, and develop a philosophy of interscholastic athletics keeping with the objectives of total education.

221. FANTA, Hannah Ehrman. A Positive Approach to Mental Health Needs of Elementary School Children. 1962. M.A. in Physical

Education. 73 p. (W. Lauritsen)

Twenty-five problem situations containing disguised special needs of a child with multiple choice answers were given to 122 prospective elementary teachers at San Diego State to determine ability in recognizing basic and special mental health needs of elementary school children. The large majority of prospective elementary teachers were able to identify special needs in the areas of intellectual and leadership ability, artistic and creative writing talent, physical skills, aggressive and withdrawn maladjustment, and visual handicaps. Among problem situations in which half or less of the group recognized the special needs were scientific ability; musical, dramatic, and dancing talent; mechanical skills; general maladjustment; speech and hearing handicaps; and the characteristics of behavior associated with social, physical, and academic needs. Insufficient information was provided to make logical, accurate identification of the special needs in some of the problem situations. The areas to be stressed in teacher education for improved understanding were the creative arts, emotional adjustment, and signs of physical handicaps.

222. GUESS, Bob M. The Status of Boys' Physical Education Programs in the Independent Secondary Schools of California. M.A. in Physical Education. 1962. 107 p. (W. Lauritsen)

Forty-nine independent but non-parochial secondary schools in California were surveyed by questionnaire to determine the extent to which their physical education programs included and implemented the recommendations of the state of California for a boys' physical education program in a senior or four-year high school. A majority of the independent schools failed to meet state standards. Weaknesses were: lack of variety in the activities programs, which consisted mostly of team games; lack of professionally educated physical education teachers; physical education non-mandatory in some schools; inadequate testing and evaluation; and lack of school-parent communication regarding student progress in physical education. Strong points in many schools were small size of school, strong aquatic program, and the interscholastic athletic program.

223. HARTZOG, Ernest Eugene. An Investigation into Program Practices of San Diego County Day Camps. M.A. in Physical Education. 1962. 57 p. (M. Murphy)

The interview-questionnaire technique, along with a review of brochures and pamphlets, was used to determine the types of day camp programs in San Diego County, California, to compare these programs with selected standards in the field, and to determine some common practices in the various programs offered. Findings included information with respect to number and types of camps, different programs, characteristics of campers, fees, counselors, camper-counselor ratio, transportation, and advertising techniques. Conclusions were drawn with respect to a need for literature on various aspects of day camping, leadership and practices in the field, coordinating with other community functions, programming, equipment, attendance, staff, and financing.

224. KENNEDY, Martin Andrew. A Analysis of the Role and Status of the Athletics Trainer in the Four-Year Colleges and Universities of California. M.A. in Physical Education. 1962. 69 p. (G. Governali)

The role and status of athletics trainers in 25 four-year colleges and universities in California was determined by questionnaires sent to athletics trainers and athletics directors. Answers were received from 28 institutions. The average salary of athletics trainers was \$6,228.57. The average years of experience for full-time trainers was 14.5. Most trainers held bachelor of arts and physical therapy degrees and had over five years' experience. The study gave further detail relative to qualifications

and experience, training room facilities, duties and responsibilities, and finances.

225. KNUDSEN, Jean R. A Socially-Oriented Curriculum for Trainable Retarded Adolescents. M.A. in Physical Education. 1962. 127 p. (W. Lauritsen)

A three-area socially-oriented curriculum was developed to promote the social development and adjustment of trainable adolescents in a public school. This curriculum utilized activities of daily living, academic concepts, and avocational and recreational activities. These activities and concepts were used experimentally with trainable, retarded children, observations were made, and changes recorded. Parents and school personnel assisted the teacher in evaluating the worth of the program in promoting socialization of the group. Trainable retarded adolescents in this particular group were judged to have gained significantly, not only in social development, but in other aspects of the program as well, such as physical coordination, speech, academic learning, etc.

226. MANGUSO, David Joseph. A Survey of the Physical Education and Athletic Programs of the Ranch-Camp Schools of California. M.A. in Physical Education. 1962. 86 p. (C. Benton)

The purposes of the study were to contribute to the development of physical education and athletics programs in the ranch-camp schools for delinquents in California and to propose guide-lines for establishing and maintaining programs for delinquent boys committed to ranch-camps. Nineteen of 27 ranch-camp schools in California returned questionnaires, which covered the general areas of administration, curriculum, methods, teaching personnel, facilities, and equipment. Pertinent literature related to ranch-camp schools, juvenile delinquency, and physical education and athletics was reviewed to determine approved principles and practices which might serve as criteria for the development of recommended programs of physical education and athletics at these schools. Recommendations were made relative to the implementation of a physical education and athletics program.

227. MICKELSEN, Noel K. A Study of the Vocational Status and Personal Characteristics of Professional Baseball Players. M.A. in Physical Education. 1962. 105 p. (P. Governali)

The purpose of the study was to obtain useful information concerning professional baseball as a vocation. The structured interview technique was used on 103 Pacific Coast League players in 1960 to secure data with respect to their vocational status and personal characteristics. Median salary of players was \$1,200 per month. Most players enjoyed competition and playing the game and nearly all would return to baseball if they could begin their careers again. Money, travel, meeting new friends and people, contacts for future employment, baseball as an education within itself, and other miscellaneous advantages were cited. Being away from home and family, insecurity involving the game, interference in preparing for another vocation, excessive control by club owners, hardships on family, and other miscellaneous disadvantages were noted.

228. WEST, Harry Richard. Basic Offensive Principles and Rules for I-Formation Quarterbacks. M.A. in Physical Education. 1962. 132 p. (P. Governali)

This study developed offensive principles and rules applicable for attack-any defensive alignment not classified as a goal line defense. The many and varying combinations of defensive alignments discourage play calling based on rote memory of series, zone charts, and many "do" and "don't" rules of offense. The attack principles and rules developed were based on weaknesses inherent in each defense. The study listed two attack

principles, five attack rules, and five ways of determining whether or not a defensive weakness (hole) existed. The quarterback's attack principles and rules were applied to 15 selected defenses and found to be applicable to the various major defensive alignments used against the T-formation.

Smith College, Northampton, Massachusetts

(E. Way)

229. FARRELL, Sandra Morton. The Development of a Film on Teaching Progressions in Diving. M.S. in Physical Education. 127 p. (E. Way)

Two reels (Elementary Diving and Springboard Diving), presenting the teaching progression from the sitting dive through the running front dive, were prepared. The progression was based on the consensus of authorities as expressed in the literature.

230. FULTON, Marjorie E. The Relationship Between Estimation and Achievement of Specific Motor Skills. M.S. in Physical Education. 1962. 86 p. (E. Way)

The testing of 100 subjects in 11 different motor skills indicated a significant positive relationship between estimation and achievement and a significant tendency toward underestimation. Although primarily concerned with observations of over-, under-, and accurate estimation of achievement, the study also tentatively explored the effects of task familiarity and difficulty on estimation, and the differences in accuracy of estimation in fine and gross motor skills.

231. HOLDEMAN, Janie J. An Investigation of Lateral Dominance as Measured by Balance, Kinesthetic Positioning, and Flexibility. M.S. in Physical Education. 1962. 72 p. (A. Delano)

Hand and foot balance, kinesthetic positioning at the hip and shoulder joints, and lateral trunk flexibility were the specific factors measured. In total body dominance, contralateral dominance was more prevalent than mixed or homolateral dominance, and mixed was more prevalent than homolateral. The percentage of merolateral dominance of the upper extremity was greater than that of hololateral dominance.

232. HOPPER, Lynn. A Study of Transfer of Training in Eye-Hand and Eye-Foot Coordinations. M.S. in Physical Education. 1962. 71 p. (E. Way)

Wall volley type tests were administered to 26 subjects and practice groups were equated on the basis of the total scores. One group practiced with the high-scoring hand and the other with the low-scoring hand. When retested, there was no difference in the amount of improvement of the two groups. Transfer of training to the opposite and symmetrical member did occur. Training eye-hand coordination seemed to have a negative effect on eye-foot coordination.

233. JOHNSON, Beverly F. The Relationship of Hip Strength and Flexibility to Breast Stroke Kick Power. M.S. in Physical Education. 1962. 73 p. (E. Way)

Groups using the whip and wedge type breast stroke kicks were tested for strength of thigh adduction, flexibility of thigh abduction, and power obtained from the kick. No differences between the groups were observed in strength and flexibility. The whip kick yielded significantly higher power. Strength was not a significant factor for power in either type of kick. Results indicated that flexibility was a factor in determining the power in the wedge kick and that it was not important to the development of power in the whip kick.

234. KELLER, Neill L. A Study of the Relationship of Ability in Synchronized Swimming Stunts to Motor Ability, Buoyancy, and Sculling Ability. M.S. in Physical Education. 1962. 83 p. (E. Way)

Students registered in synchronized swimming classes and members of the synchronized swimming club were the subjects of this study. Motor ability as measured by the Iowa-Brace test and sculling ability as measured by speed of sculling appeared to be factors important to the execution of synchronized swimming stunts. Buoyancy had no apparent relationship to ability in synchronized swimming stunts.

235. MAYNARD, Jo Taft. A Comparison of Two Methods of Teaching Fencing. M.S. in Physical Education. 1962. 52 p. (C. Newhof)

Beginning fencing classes were equated in motor ability (Scott). The teaching methods were identical except that slow motion film loops replaced teacher demonstration in the experimental class. Use of the Bower Test of General Fencing Ability at the end of the sessions indicated no difference between the groups. Slow motion film loops may be used as an effective substitute for teacher demonstration in the teaching of beginning fencing skills.

236. SEARCY, Paul Jean. The History, Organization, and Function of the Division for Girls and Women's Sports, 1940-1962. M.S. in Physical Education. 1962. 145 p. (J. Mott)

A brief review of pre-1940 history provided an introduction to this history of the organization primarily responsible for the rules and conduct of sports for girls and women. The development of the Division was presented in relation to social changes.

237. WARE, Lanetta T. A Study of the Effect of Fatigue on Balance, Kinesthetic Positioning, and Steadiness. M.S. in Physical Education. 1962. 62 p. (E. Way)

A work bout of 15 squat thrusts in one minute was used to induce mild fatigue. The differences between pre- and post-tests indicated a tendency to improve static balance, no effect on kinesthetic positioning of the shoulder joint, and an increase in hand tremor. Mild fatigue appeared detrimental to performance in which hand steadiness was important.

University of Southern California, Los Angeles 7, California

(A. Lockhart)

238. BENTON, Carl W. Critical Requirements for Effective Teaching in Professional Preparation Courses in Physical Education at California State College. Ed. D. in Physical Education. 1959. 139 p. (E. Metheny)

Within the limitations of this study (which dealt only with methods courses included in professional preparation curricula for teachers of physical education as offered by the California state colleges) and within the limitations imposed by the subjective nature of the critical incident technique, it was concluded that the effectiveness and ineffectiveness of specific kinds of instructional behaviors can be differentiated with reasonable objectivity in terms of observations recorded by either students or instructors.

239. COLEMAN, Dorothea Aileen. Undergraduate Learning Experiences Leading to the Development of Competency in Teaching Physical Education. 1960. 505 p. (E. Metheny)

Institutions for teacher preparation in the state of Washington with limited credit hours for professional programs should have as primary objectives the provision of learning experiences that develop the specific competencies

needed to perform the specialized functions of the physical education teacher. An inventory of learning experiences for clarifying teacher education objectives, defining competencies, and selecting learning experiences was recommended for use by departments of physical education.

240. deVRIES, Herbert Alton. Warm-Up Effects of Relaxation and Stretching Techniques Upon Gross Motor Performance. Ph. D. in Physical Education. 1960. 106 p. (A. Lockhart)

Improved performance in selected athletic skills may result from the use of the proper warm-up procedure. It seems likely that this warm-up procedure must be of sufficient duration and intensity to bring about circulatory and temperature changes. No evidence was found that the resistance offered by muscles antagonistic to the prime movers in motor performance can be reduced through preliminary stretching and/or relaxing techniques to an extent which will result in measurable improvement of subsequent motor performance.

241. EGSTROM, Glen Howard. The Effects of an Emphasis on Conceptualizing Techniques During Early Learning of a Gross Motor Skill. Ph. D. in Physical Education. 1961. 159 p. (A. Lockhart)

The use of a method which involved alternating periods of conceptualizing and manual practice appeared to be as effective as a method emphasizing manual practice alone. The combined method seemed to have value, in terms of economy of time and equipment, as a means of learning gross motor skills.

242. FOREMAN, Kenneth Everett. An Analysis of the Activities of Selected Male Teacher Educators in the Area of Physical Education. Ed. D. in Physical Education. 1961. 338 p. (E. C. Davis)

Job analysis supplemented by the opinions of a properly selected jury may provide pertinent information about the teacher educator and may indicate the feasibility of utilizing his time and capabilities more effectively.

243. FROST, Ardith Bernice. Crucial Behavioral Dimensions of First-Line Supervisors in Municipal Recreation. Ph. D. in Physical Education (Recreation). 1962. 177 p. (E. Metheny)

This study identified some of the crucial behavioral dimensions of supervisory recreation personnel in selected cities in California. Within the limits of this study and those imposed by the subjective technique used, it was concluded that data distinguishing between effective and ineffective behavior of supervisors in the performance of their duties may be systematically collected, recorded, analyzed, and interpreted to identify some of the crucial behavioral dimensions of supervisors. The lists of effective and ineffective behaviors represented some of the crucial behavioral dimensions more objectively, reliably, and realistically than the opinions, best guesses, and generalizations that are often used.

244. KELLEY, David Lyndon. The Influence of Artificial Atmospheric Ionization on Human Motor Performance. Ph. D. in Physical Education. 1962. 115 p. (A. Lockhart)

The effects of inhaling large quantities of ionized air for 20 minutes were too subtle to result in immediate changes of significance in subsequent motor performance of the upper limb. Standardized procedures for controlled administration of ionized air were developed and may be useful.

245. MATHEWS, Patricia Joan. Effects of Isometric Exercise on the Velocity of the Tennis Forehand Drive. M.A. in Physical Education. 1962. 57 p. (G. Logan)

246. MILLER, Donna Mae. The Relationships Between Some Visual-Perceptual Factors and the Degree of Success Realized by Sports Performers. Ph.D. in Physical Education. 1960. 215 p. (A. Lockhart)
Measurable differences in the visual-perceptual abilities of performers of varying levels of skill in sports were found. Players who have demonstrated championship ability were more likely to possess superior visual-perceptual abilities than those of low gross motor skill.
247. MORRIS, Hazel Virginia. Grade Placement of Games in the Elementary School Curriculum of Physical Education. Ph.D. in Physical Education. 1962. 80 p. (E. Metheny)
The traditional grade placement of specific games within curriculums of physical education in the elementary schools was studied with a view to introducing more complex skills and more complex game situations at earlier grade levels. Since the method used in this study elicited evidence that could be logically interpreted in relation to the achieved developmental levels of children, it was also concluded that this method or some adaptation of it would have value in eliciting information needed for evaluating the grade-placement of specific curricular experiences.
248. ROSE, Jack Warren. Optimum Performance as the Basis for the Administration of Track and Field Meets. Ph.D. in Physical Education. 1962. 133 p. (A. Lockhart)
Present National Collegiate Rules provide a competitive situation which limits maximum performance, but administrative policies for track and field activities should provide for optimum performance. In the shot put and broad jump as conducted at dual meets, every competitor should be allowed five trials, the winner being determined by over-all optimum performance. In the same type of meet, athletes taking part in the high jump and pole vault should take seven trials at self-determined heights, the winner being determined by over-all optimum performance.
249. SHAFFER, Rosalind. Six Pre-Classic Dances and One Original. M.A. in Physical Education. 1962. 29 p. (L. Ellfeldt)
250. THOMAS, Paul. Economy of Learning at Beginning Levels of Gross Motor Performance. Ph.D. in Physical Education. 1961. 136 p. (A. Lockhart)
During the initial learning of new motor skills, the learner should concentrate his attention on factors other than the details of specific body movements which are required for performance.
- Springfield College, Springfield 9, Massachusetts (E. W. Seymour)**
251. BELL, Dudley S. A Proposed Pre-Season Tennis Program. M.S. in Physical Education. 1962. 46 p. (E. Seymour)
As a result of study of tennis literature, interviews and correspondence with tennis authorities, and analysis of the physical demands of tennis, a pre-season program was formulated for institutions without access to an indoor tennis court. The program provides for workouts five days a week, consisting of a wide variety of training and conditioning exercises. A weight training program was recommended for alternate days, three times each week, to aid in strengthening areas of the body most involved in playing tennis.
252. BILIK, Edward R. A Developmental Program for Students With Sub-Standard Physical Fitness. M.S. in Physical Education. 1962. 64 p. (C. Shay)

Isotonic contraction and isometric contraction programs were compared for their contribution to improved strength and physical fitness. Twenty-two freshmen students at Springfield College with PFI's below 85 were used as subjects for the two groups. Both programs resulted in significant increases in strength and in physical fitness. Analysis of covariance showed no significant difference in the changes brought about by the two programs. Such difference that existed favored the isotonic program for both strength and physical fitness.

253. FITZGERALD, D. Marian. The Relationship of Certain Factors of Body Build and Motor Performance to the Ability to Execute the Ballet Leg. M.S. in Physical Education. 1962. 54 p. (M. Thorsen)

Twenty-five Springfield college women students were somatotyped and measured to determine the trunk index, ponderal index, upper dorsal area, lower dorsal area, leg length, dorsal height, weight, the location of center of gravity in the ballet leg position, leg length divided by dorsal height, and lower dorsal area divided by leg length. Motor performance tests were given to determine motor ability. Total performance was judged by a jury of experts experienced in synchronized swimming. Weight alone had a non-significant effect on ability to execute the ballet leg. Individuals who were more endomorphic were able to perform the ballet leg with a minimum of abdominal strength, provided leg length was proportionate to dorsal height. Individuals who were more mesomorphic or heavier in proportion to size needed to score higher in factors of motor performance to assure success in performance of the ballet leg.

254. FOSTER, Matthew J. A Suggested Methodology in Functional Movement Training for Boys' Gymnastics in Elementary Schools. M.S. in Physical Education. 1962. 185 p. (C. Shay)

A wide variety of activities, such as walking, running, hopping, jumping, pulling, pushing, twisting, turning, curling, stretching of limbs and torso, and practice in balancing on small points as well as large parts of the body, was expanded to provide an extensive vocabulary of movement. From these basic actions combinations were selected and utilized to facilitate performance of specific gymnastic skills. A series of twelve sample lessons was evolved to show how a movement training approach could be used in teaching gymnastics. Considerable care was necessary in the choice and placement of gymnastic apparatus, and diagrams of the apparatus were supplied for each lesson. Pertinent teaching notes and observations were added.

255. FREEMAN, Robert W. The Development of a Motion Picture and a Manual of Selected Exercises for a Beginners Program in Competitive Gymnastics. M.S. in Physical Education. 1962. 57 p. (F. Wolcott)

Study resulted in a 16mm motion picture and accompanying manual for a beginner's routine on each of the six international events which make up the international gymnastic competition for men. Recommendations of a panel of gymnastic authorities and coaches from various schools and agencies were incorporated in the study.

256. GOTTSBALL, Donald R. The Effects of Two Training Programs on Reflex Time, Reaction Time, and the Level of Physical Fitness. M.S. in Physical Education. 1962. 73 p. (P. V. Karpovich)

Twenty-four male inmates at the Hampden County Jail were used as subjects. They were tested for right patellar tendon reflex time, right lower leg reaction time, and performance on push-ups, sit-ups, and the step-up test. Three groups were equated on the basis of reflex time. One group

practiced sprint starts and 25-yard dashes. A second group participated in a calisthenic program which included side-straddle hops, push-ups, sit-ups, chins, vertical jumps, and several minutes of running. These groups trained three times a week for eight weeks. The third group served as a control and did not engage in any training other than being tested with the other groups prior to the start of the program, after the fourth week, and the week after the end of the training. Neither training program significantly shortened reflex time. Reaction time showed a significant decrease at the .05 level in both the sprint and exercise groups while no significant change occurred in the control group. Although the reduction among the exercise group was greater than in the sprint group, the difference was not significant at the usual levels. The fitness level of the exercise group increased significantly (.05). Changes in fitness for the other two groups were not significant.

257. GREENLEAF, Florence E. Source Materials for Instruction in Candlepin Bowling. M.S. in Physical Education. 1962. 85 p. (M. Thorsen)

Source materials were reviewed for the teaching of candlepin bowling with reference to form of champion candlepin bowlers, history, attire, equipment, safety rules, etiquette, proper bowling form, delivery of the ball, target and point of aim, how to score, playing rules, the lane and its markings, playing the wood, specific spare set-ups, chart of leaves, terminology, and varying events in candlepin play.

258. HART, Marcia E. A Study to Determine the Relationship Between Physical Fitness Indices and Academic Indices of Springfield College Sophomore Women. M.S. in Guidance and Personnel Services. 1962. 63 p. (H. Paar)

The following data were obtained from 60 Springfield College sophomore women: the results of the mathematical and verbal parts of the SAT; the cumulative academic indices at the end of their freshman year; and the PFI's as of spring of the freshman year. Analysis of data showed a correlation of .50 between cumulative index and PFI and a partial r of .63 between these two when verbal scores on the SAT were held constant.

259. JOHNSON, Charles R. A Comparison of Student Teaching Evaluations with First-Year Teaching Evaluations in the Field of Physical Education. M.S. in Physical Education. 1962. 45 p. (H. MacMullen)

Comparisons were made between student teaching grades and first-year evaluations of 46 physical education graduates. The student teaching evaluation was almost a full letter grade higher than the evaluation received from employers after one year of teaching. An attempt was made to generalize upon the nature of both the student teacher and the person with one year of teaching experience from the comments received on the rating forms.

260. MARSHALL, Bruce T. A Survey of Administrative Procedures Governing Interscholastic Football in Public High Schools in Four Canadian Cities. M.S. in Physical Education. 1962. 88 p. (C. Shay)

Information was obtained through questionnaire and interview from the Directors of Athletics in Montreal, Ottawa, Toronto, and Hamilton. As indicated by replies obtained, the administration of interscholastic football was in the hands of certified educational personnel and was being operated under sound educational principles. Financial limitations created certain problems in terms of equipment and personnel.

261. RUSKO, Paul L. A Study of the Status of Wrestling in the Boys'

Physical Education Programs in Public Secondary Schools of Springfield College Graduates of 1955-1958. M.S. in Physical Education. 1962. 67 p. (H. MacMullen)

Through questionnaires, 110 male Springfield College graduates of the years 1955 through 1958 were contacted. At the time of the study, each of the respondents was employed as an instructor of boys' physical education in one of three school groupings: grades 7-9; grades 9-12; and grades 7-12. Wrestling was included in the physical education program and was led by more than two-thirds of the respondents. In approximately one-third of the cases, it was offered in the interscholastic program. Replies of respondents were strongly favorable toward the skills course in wrestling, which was a part of their preparation, but a large number indicated that additional course work would have prepared them even better.

262. STONE, Charles G. A Long Range Program of Recreation for Military Personnel and Their Dependents at Westover Air Force Base, Massachusetts. M.S. in Recreation. 1962. 204 p. (D. Bridgeman)

Through existing standards, surveys were made of facilities, personnel, and recreation programs at Westover Air Force Base. A questionnaire was submitted to 5 percent of the airmen and 10 percent of the officers to determine to what extent recreational needs of military personnel and their dependents were being met. On the basis of the study, recommendations were made to effect improvements in the program and the manner in which it was offered.

263. WELLS, Russell F. The Relationships of the Leg Strength/Body Weight Ratio and Lengths of the Lower Limb Segments to the Vertical Jump. M.S. in Physical Education. 1962. 64 p. (C. Keaney)

Measurements of body weight, body height, leg strength, vertical jump, and lengths of body segments (foot, shank, thigh, and leg) were taken on 49 male college students to see whether significant relationships existed between vertical jump height and any of the following: leg strength/body weight ratio, length of selected segments of the lower limbs, and the ankle-heel length/metatarsal length ratio. None of the relationships studied proved to be statistically significant.

264. WHERITY, Philip N. The Effects of Roller Skating on Motor Ability in Adolescent Girls. M.S. in Physical Education. 1962. 69 p. (M. Thorsen)

Thirty girls between the ages of 12 and 15 were the subjects. Through random assignment, 20 girls were placed in a skating group and the other 10 in a non-skating group. The first 20 were then assigned on the basis of the Newton Motor Ability Test into two groups. One group (experimental) was given the instructional roller skating program as part of an eight-week course containing 19 hours with 17-1/4 hours devoted to instruction. Control group I skated the same amount of time but without instruction. Control group II did not skate. Initial and final motor ability means for each group were: experimental, 57.7 and 70.0; control group I, 58 and 61.5; control group II, 57.3 and 59.4. Using analysis of covariance it was found that the mean increase within the experimental group was significantly greater than within either of the control groups. Furthermore, the mean gain of control group I, while greater than that for control group II, was not significant.

Stanford University, Stanford, California

(J. E. Nixon)

265. CLEGG, Richard. An Evaluation of Little League Baseball in California. Ed. D. in Physical Education. 1962. 242 p. (J. E. Nixon)

The literature concerning Little League Baseball and the effects of athletic competition on children was reviewed and 257 separate "ideal practices" and "actual practices" questionnaires were mailed to California Little League presidents with 68.5 percent and 67.7 percent returns. The average league included 161 boys and excluded 67. Managers had few previous youth leadership experiences but had coached for more than two years. The majority of leagues used public fields. Tournament play beyond local levels, leisure time freedom of participants, professional consultations with local leagues, and parental cooperation and control apparently needed improvement. Commercial exploitation of children, injuries requiring medical attention, and exaggerated publicity of individual players were apparently not serious problems. The leadership was altruistic and desired improvement of the program.

266. CUMMISKEY, J. Kenneth. The Effects of Motivation and Verbal Reinforcement Upon Performance of Complex Perceptual-Motor Tasks. Ph. D. in Physical Education. 1962. 49 p. (J. Nixon)

The subjects, 10 to 13 year old boys, were divided into skill levels by a classification test and assigned to treatments consisting of verbal encouragement, mechanical reinforcement, and no imposed stimulation while performing a wall volley and a paper and pencil cancellation test. One experiment involved a single treatment and a post-treatment test and the second involved five trial treatments and a post-treatment. Both verbal encouragement and mechanical reinforcement hindered performance in the wall volley with a single treatment but with five trials the decrement was not apparent. Neither treatment improved performance and the effects were more pronounced among the high skill groups.

267. LOCKE, Lawrence F. The Performance of Administration Oriented Physical Educators on Selected Psychological Tests. Ph. D. in Physical Education. 156 p. (J. E. Nixon)

The performances of the physical educators differed significantly from those of a group of classroom teachers on the Miller Analogies Test, Public Opinion Questionnaire, and Edwards Personal Preference Schedule with the direction of some of the differences supporting the public image of the physical educator. The distributions of the two groups showed a high degree of overlap and experimental changes in the physical education group altered the differences sharply.

268. NIEPOTH, Edward William. The Professional Maturity of Recreation Administrators. Ed. D. in Physical Education. 1962. 225 p. (J. E. Nixon)

Administrators were asked to rate (a) the importance of 82 professional activities and (b) their participation in terms of opportunities, on the assumption that professional maturity was indicated by acceptance of professional responsibilities and the importance attached to and extent of engagement in activities derived from these responsibilities. Perceptions of importance were significantly greater than participation in activities related to research, professional preparation, recruitment, objectives, ethics, professional organizations, and working conditions. Differences did not obtain for activities related to in-service education and identification of competent personnel. The results suggested that the administrators had not attained the level of professional maturity permitted by the status of the field at the time of the investigation.

269. STRATHAIRN, Pamela L. Elective and Required Aspects of Women's Physical Education at Stanford University. Ed. D. in Physical Education. 1962. 131 p. (J. E. Nixon)

Data were limited to official records of the department from September 1956 through June 1960, including departmental minutes, enrollment records, master schedules of classes, and the President's annual reports. The reliabilities of differences in enrollment practices were tested with chi square analysis. The primarily elective program administered by the Department of Physical Education for Women functioned within the purposes of the University's General Studies Program and met national criteria for physical education programs in most respects. Statistically significant enrollment differences beyond the .001 level indicated that participation in physical education throughout the four undergraduate years was promoted but that participation in a variety of physical education activities was not promoted.

Syracuse University, Syracuse 10, New York

(J. H. Shaw)

270. WEISBECKER, Milton E. A Comparative Analysis of State Associations for Health, Physical Education and Recreation. Ed. D. in Physical Education. 1962. 296 p. (J. H. Shaw)

State associations were ranked in terms of how effectively they achieved a list of purposes long accepted by professional associations by six jurors from their district of AAHPER. Presidents of state associations answered a questionnaire and differences in responses among ranked groups were tested for significance by tables prepared by Finney and Latscha. The above-average associations had a combined membership approximately seven times that of the below-average group, about 45 percent of the estimated potential membership as compared to 30 percent, dues almost twice as high, greater organization, more committees, written operating codes, more frequent and lengthy meetings, workshops, clinics, and more business-like financial structure.

Teachers College, Columbia University, New York 27, New York

(R. G. Kraus)

271. COGAN, Max. Self-Understanding Through College Programs of Physical Education for Men. Ed. D. in Physical Education. 1961. 321 p. (C. Brownell)

This study was based on interviews with psychiatrists, psychologists, physical educators, and persons in related professions, supplemented by a review of the literature. The body-image concept, emphasizing the fallacy of separating mind from body and of emphasizing physical health while ignoring related psychological factors, provided a starting point for evaluating the contribution of physical education to self-understanding and self-acceptance. Healthy attitudes toward the bodies, the recognition of bodily movement as a means of self-expression, the use of physical activity as a means of releasing socially unacceptable emotions such as hostility, and the appropriate involvement in competitive activities all contributed in this process. The possibilities for developing self-understanding through physical education appeared almost limitless, although they have been relatively unexplored to date.

272. HOEHN, H. Harry. Skin and Scuba Diving in Schools and Colleges: An Instructional and Administrative Manual. Ed. D. in Physical Education. 1962. 212 p. (H. Poindexter)

Current literature was reviewed, authorities were interviewed, existing programs were studied, and a program of skin and scuba diving was conducted at Queens College of the City University of New York. Inclusion

of these activities in school and college physical education programs seemed justifiable educationally. Most educational aquatic facilities will accommodate these activities but adaptation of new facilities for diving would be desirable. The most important concern is selection, care, and maintenance of diving equipment.

273. INGRAM, Anne Gayle. Teaching Dance as a Career. Ed. D. in Physical Education. 1961. 226 p. (R. Kraus)

The categories of professional careers in dance instruction considered were: college teaching, secondary school teaching, commercial studio teaching, and square and folk dance leadership and calling. Information was secured through four surveys distributed to members of the four professional groups (in the case of the commercial teachers, the survey was sponsored by a national association). Among aspects analyzed were minimum educational requirements for professionals in each category, salary ranges, job responsibilities, certification requirements, business factors affecting commercial dance instruction, and the background, training, and remuneration of recreational dance leaders.

274. LEFKOWITZ, Leon Joseph. A Study of the Program of Physical Education in Residential Schools for the Blind in Selected States of Northeastern United States. Ed. D. in Physical Education. 1961. 169 p. (J. Hutchinson)

Evaluative criteria derived from the literature were rated by a board of seven experts selected by the American Foundation for the Blind and seven representative residential schools for the blind were visited to gather data regarding their physical education programs. Physical education was an accepted phase of the educational program and a wide variety of activities were offered, with an apparent overemphasis on wrestling, and on track and field. All schools have adequate indoor and outdoor facilities and sufficient equipment, although large pupil-teacher ratios and an insufficient time allotment were characteristic. Almost all physical education instructors had at least a bachelor's degree from an accredited college or university. Orientation and mobility training has become an increasing responsibility of the physical education department at these schools.

275. NITARDY, Walter John. A Study of Intercollegiate Athletic Programs in the Colleges of Education of the State University of New York, with Particular Implications for the College at Oswego. Ed. D. in Physical Education. 1961. 176 p. (H. Poindexter)

On the basis of pertinent literature, the educational values of intercollegiate athletics were defined and guidelines for an intercollegiate athletic program were formulated. With the permission of the Executive Dean for Teacher Education of the State University, the 11 colleges were surveyed by questionnaire, and follow-up interviews were held with athletic directors and presidents. A number of recommendations were made for improving the program at Oswego, chiefly in the area of administrative controls, assignment to coaching responsibilities, and policies regarding athletic participation.

276. OLSEN, Lyle Irving. A Study of General Selective Student Recruitment As It Applies to Intercollegiate Athletics. Ed. D. in Physical Education. 1961. 199 p. (J. Hutchinson)

A questionnaire was distributed to 20 selected male undergraduate colleges, geographically scattered, and 18 responded. Interviews were conducted with officials in 20 colleges in geographical proximity to New York. Athletic recruitment efforts closely paralleled total college patterns of selection and admission, although close cooperation between admissions offices and athletic divisions was not a common occurrence. Certain abuses and evils of athletic recruitment were noted, chiefly in

those colleges which made the most strenuous effort to attract athletically talented students. Making athletic recruitment a more integral part of the college admissions office operation was recommended.

277. RAMSAY, Richard Lyon. A Proposed Guide for the Recreation Program for Mentally Ill Patients in the Mental Health Services of British Columbia, Canada. Ed. D. in Physical Education. 1961. 240 p. (J. Hutchinson)

The general field of hospital recreation was examined (particularly the more advanced programs in the United States). The socioeconomic conditions, general cultural environment in British Columbia, and the present philosophical orientation of the Provincial Mental Health Services in treating the mentally ill were analyzed. Recommendations based on immediate objectives and on long-range goals were made. Along with general recommendations for the improvement of program, certain specific needs were to establish a hospital branch of the British Columbia Recreation Association, to develop a professional society of hospital recreation personnel in British Columbia, and to adapt recreation programs to the decentralization of the Mental Health Services.

278. TUCK, Miriam Lyons. Experimental Demonstration as a Method of Stimulating Learning. Ed. D. in Health Education. 1961. 123 p. (H. Walker)

Perfunctory student interest in health education led to an experimental approach for teaching a nutrition unit to sophomore high school girls. Students and teacher jointly planned an animal dietary experiment with white rats given adequate and inadequate diets. The Nutrition Department at Teachers College cooperated with this phase of the experiment and the Biology Department assisted with a later genetic phase of the experiment. The dietary habits of 253 girls participating in the experiment were recorded prior to the beginning of the unit and at its end. These were analyzed in terms of the Recommended Daily Allowances of the Department of Agriculture. The findings, together with student and parent comments, seemed to indicate positive changes in student diet; this suggested the value of laboratory experimentation and demonstration as helpful motivating factors for students in the nutrition unit and the integration of health education with other subject areas.

Temple University, Philadelphia 22, Pennsylvania (J. B. Oxendine)

279. TWARDOWSKI, Edward Theodore. The Effect of Warm-Up Upon 100-Yards Swimming Performance. Ed. D. in Physical Education. 1962. 177 p. (J. B. Oxendine)

After three months intensive training and conditioning, 25 college varsity and freshman swimming team members swam 265 time trials, using the crawl stroke, after each of the following four warm-up procedures: formal calisthenics and swimming, hot shower at 105° F. for 8 minutes, hot whirlpool bath at 105° F. for 4 minutes, and no warm-up (control). The mean time after formal warm-up was significantly faster than after the other three conditions. The mean time after no warm-up was significantly faster than after the hot shower and whirlpool bath.

280. WAGNER, Cloyd G. The Effect of Different Lengths of Practice on the Learning of Certain Basketball Skills among Junior High School Boys. Ed. M. in Health and Physical Education. 1962. 92 p. (J. B. Oxendine)

Forty-two seventh grade boys were divided into three equated groups on the basis of skill in field goal shooting, speed dribbling, free throw accuracy, and wall volleying. The groups practiced the motor skills for

different lengths of time twice a week for six weeks and were tested at two-week intervals. Tests to measure retention were administered three weeks after the final test following practice. Relatively long practice periods promoted greater learning during the early phases of practice but relatively short periods of practice appeared just as productive after some skill had been developed. Relatively long practice periods developed more consistent performance than shorter practices and learning occurred during periods of no physical practice after some degree of skill had been developed.

Texas Woman's University, Denton, Texas

(A. S. Duggan)

281. DAY, Dorothy. The Comparison of the Nutritional Status and the Physical Fitness Status of Seventh, Eighth, and Ninth Grade Girls Enrolled in Baytown Junior High School, Baytown, Texas, 1960-1961. M.A. in Physical Education. 1961. 55 p. (M. Murphy)

The Pryor Width-Weight Index was used to determine the nutritional status of 200 girls enrolled in physical education classes and the AAHPER Youth Fitness Test was used to determine the physical fitness status. The nutritional status of the subjects was poor—41 percent were overweight and 4.5 percent were underweight. The mean percentile scores of the seven AAHPER test items ranged from 56.89 to 60.95 and the mean total test percentile score was 61.56, so the group was better than the national norm in physical fitness. The correlation between nutritional status and total physical fitness status was $.04 \pm .07$.

282. MONROE, Mary Martha. A Comparative Study of Motor Ability and Physical Fitness of Selected Freshman Women Enrolled in College Dance Classes. M.A. in Dance and Related Arts. 1962. 81 p. (C. Sherrill)

The Scott 3-Item Motor Ability Test Battery and the Scott 2-Item Physical Education Test Battery were administered to 100 freshman women before and after the fall semester of 1960-1961 at Madison College (Virginia) during which the subjects had four weeks of fundamental movement, four weeks of folk dance, and eight weeks of modern dance. The women improved in motor ability and physical fitness but showed greater improvement in motor ability than physical fitness.

283. ROGERS, Bettejoe. A Study of the Relationships Between Selected Physical Fitness Skills and Selected Basketball Skills of Freshman Women Students Enrolled in Physical Education Classes at Tarleton State College, Stephenville, Texas, During the Spring Semester of the Academic Year of 1961-1962. M.A. in Health, Physical Education and Recreation. 1962. 186 p. (C. Sherrill)

A 4-Item physical fitness test and a 2-Item basketball skills test were administered to 99 freshmen women in four equated groups before and after seven weeks of prescribed physical activity comprising: Group I, isometric exercises and basketball; Group II, basketball; Group III, conditioning exercises and basketball; Group IV, conditioning exercises. The groups were effectively equated initially although Group II was significantly higher in squat thrusts than the other three groups. Within-group comparisons showed that on the physical fitness test items significant gains were made by Group I on the sit-ups and obstacle race, by Group III on the sit-ups, and by Group IV on sit-ups, pull-ups, squat thrusts, and the obstacle race. On the basketball skills test, Group I made significant gains on both half-minute shooting and wall-passing and Group IV made significant gains on wall-passing. No significant differences were found among the groups on the total score for the physical fitness test. Group IV was inferior to the other three in development of

basketball skills. No evidence was found indicating that any one of the training programs was superior to the others in developing both physical fitness and basketball skills as measured by the selected tests.

284. WILLIS, Naomi Ruth. The Development of a Workbook of Selected Individual and Dual Sports for College Women Students with Majors in Physical Education. M.A. in Physical Education. 1962. 128 p. (L. E. Kratz)

A workbook for the professional preparation of women majors was prepared covering archery, bowling, golf, badminton, and tennis. For each sport the sections covered the historical background, description of the game with rules and regulations, scoring, apparel, etiquette, safety, selection and care of equipment, analysis of basic skills, methods of teaching, specific work assignments, glossary of terms, and references to resource materials.

Washington State University, Pullman, Washington (G. Romney)

285. BAKER, Clyde C. A Study of the Duties and Functions of the Supervisor of Physical Education in the Public Schools in Western Washington. M.S. in Physical Education. 1962. 104 p. (G. Galligan)

Eight supervisors who indicated a desire to participate were interviewed concerning their duties and qualifications, the qualifications a new supervisor should possess, and the problems encountered most frequently. Their superintendents rated the duties as either extremely important, moderately important, or unimportant, and also indicated the qualifications most desired in a new physical education supervisor. The duties and problems were categorized under: administration, facilities-equipment-supplies, instruction, special services and activities, supervision, community affairs, and personal professional growth. Both groups agreed that a new supervisor should have a master's degree with a major in physical education and considerable experience in teaching specialized classes, elementary work, and coaching. The most frequent problems were: need for coordinating staff meetings, lack of adequate storage space, need for fewer special activities, need for professional research, keeping up with and reporting on research, and the desirability of further professional study.

286. BOWIE, Gerald William. The History and Trends of Curling. M.S. in Physical Education. 1962. 162 p. (V. Dauer)

Despite some claims of European origin, curling apparently originated in Scotland before 1500, and was introduced into Canada by Scottish regiments in the eighteenth century. The earliest organized club was the Royal Montreal Curling Club (1807) but the Royal Caledonian Curling Club (1838) standardized rules and equipment and became the mother club for curlers throughout the world. Curling has thrived in all provinces of the Dominion, where there are over 2,000 clubs and over 400,000 participants. Curling was introduced into northern United States by 1830 and 80 clubs with 15,000 members have developed. The most significant event in Canadian curling has been the Macdonald Brier, or Canadian championships, inaugurated in 1927. The Scotch Cup, or world playoffs, has stimulated widespread international curling, which Canada has dominated.

287. BROWN, Frank D. The Determination of the Validity of Four Selected Motor Fitness Items and the Construction of Norms for Washington State University Men. M.S. in Physical Education. 1962. 85 p. (V. Shaw)

The 4-item motor fitness test—Sargent Jump, 30-second squat-thrust, 2-minute sit-ups, and chin-ups—given to Washington State University

freshman men (except veterans, exchange students, and physically handicapped students) was validated against Rogers' Physical Fitness Index, the Strength Index, and the subjective ratings of the developmental (sub-fit) class students by their instructors. In September 1957, 957 freshmen were tested and 1066 in September 1958. In both sets of data the test provided a relatively valid basis for detecting freshman men in need of a developmental physical education program. No significant differences between means and standard deviations were found for the two sets of data and the norms based on them were statistically sound.

288. DYERS, Karl Richard. The Relationship of Hand and Eye Dominance to Direction of Circling on the Side Horse. M.S. in Physical Education. 1962. 51 p. (G. Galligan)

Subjects were 44 students at Washington State University. After familiarization with the side horse, they were tested with standard movements involving clockwise and counter-clockwise rotation. They were also tested for hand and eye dominance and classified as right-eyed, right-handed, or right-eyed but not clearly right-handed. When separated according to hand and eye dominance and tested with t, the mean differences were not significant for either clockwise or counter-clockwise rotation. However, clockwise rotation resulted in higher mean scores and would probably be preferable if an individual had difficulty determining which direction to circle on the side horse.

289. CARLSON, Roy Eric. Analysis of the Forward Pass. M.S. in Physical Education. 1962. 40 p. (V. Dauer)

Films of four outstanding quarterbacks from the Northwest were taken under game conditions and analyzed to determine their basic body movements while executing drop-back, roll-out, and jump passes. Their detailed movements in each of the three types of passes were in good agreement with respect to gripping the ball, upper trunk action, and footwork. The movements of the hips, shoulders, and upper trunk did not differ for the type of pass and were very similar between quarterbacks. The leg action necessarily differed but kept the body under balance and control. Stepping toward the intended receiver, keeping the nose of the ball up at release, and maintaining an erect posture should be stressed in coaching a passer.

290. CONNOR, Donald Joseph. A Comparison of Objective and Subjective Testing Methods in Selected Swimming Skills for Elementary School Children. M.S. in Physical Education. 1962. 72 p. (V. Dauer)

Students from Canal Zone elementary schools were timed swimming 50 yards from a push-off in the water. The first test involved swimming prone without stopping. After at least five minutes rest, subjects swam 25 yards prone and 25 yards backstroke. They were also scored subjectively by three expert instructors during each test. Rank difference correlations were computed between number of strokes and the subjective rating, number of strokes and time, and subjective ratings and time. The results showed that the objective methods used to rank students were not significant in determining a more desirable grading procedure in either test. Also, many instructors disagreed about when to advance a student to the next level of instruction, especially in the lower age group of swimmers.

291. DURRANT, Sue Marilynn. A Method of Evaluating Performance in Synchronized Swimming. M.S. in Physical Education. 1962. 79 p. (V. Shaw)

By an analytical method intended to minimize the effect of experience and training in rating, six judges rated 24 subjects performing seven selected

stunts. The judges tended to maintain their relative positions in rating although some used a broader range on the rating scale. High correlations were obtained for all stunts with the correlations being higher for stunts having higher total point values. The estimated reliability changed very little when there were more than three judgments. A common factor was found to be operating in the performance of the seven stunts.

292. GRIMMETT, Dixie Ann. The Relationship Between Extracurricular Physical Activities of College Women and Changes in Motor Ability. M.S. in Physical Education. 1962. 80 p. (M. Wohlford)

The amount of participation in extra-curricular activities was used to classify students into three groups. Changes between the first and third administration of the Washington State University Motor Ability Battery, measuring agility, flexibility, endurance, strength, and power, were compared by the t test to determine significance. The changes were significant on most test items for all three groups and the amount of participation in extracurricular activity was not a significant factor contributing to motor ability changes.

293. HUSELTON, Richard Lee. The Effectiveness of Using the Polaroid Camera in the Teaching of Archery. M.S. in Physical Education. 1962. 40 p. (V. Dauer)

Ten subjects were selected randomly from 50 enrolled in regular service courses at Washington State University and their instruction was supplemented with the aid of a Polaroid camera. Results of a Scholastic Round administered at the beginning and end of instruction indicated that the two groups did not differ significantly on either test although changes within the control group were significant.

294. KOSYDAR, Antoni J. Comparison of Physical Fitness Between Two Elementary Physical Education Programs in the Portland, Oregon, Parochial System. M.S. in Physical Education. 1962. 74 p. (V. Dauer)

The Oregon Motor Fitness Test was administered at the beginning and end of 12 weeks in two elementary schools. The experimental group had a physical education program and the control group had a traditional free-play period. Girls in the experimental school showed improvement on every item except crossed-arm curl-ups and made a significant gain in hanging in the arm-flexed position. Boys in the experimental school increased standing broad jump scores at every level and maintained superior scores in push-ups and sit-ups despite declining scores in some grades. Comparisons by grade level showed a slight superiority of the experimental group at each grade. The experimental program was beneficial but lacked sufficient vigor.

295. LEFSTAD, Nancy Ann Chase. An Analysis of Certain Women's Physical Education Courses for the Contributions to Increased Motor Ability. M.S. in Physical Education. 1962. 83 p. (M. Wohlford)

Activity courses in bowling, golf, social dance, swimming, and tennis had been previously identified as contributing significantly to improvement in the Washington State University Motor Ability Battery, which consists of the Illinois Agility Run, 30-second squat thrust, Wells sit-and-reach, Sargent jump and reach, and modified pull-ups tests. The skills in each course contained in the course outline were defined in terms of 85 muscle actions and the test battery items were also defined in terms of 10 grouped muscle actions of skill techniques. The courses most similar in emphasis of action (hip, ankle, and foot) to the actions of the battery contributed the most to improved motor ability.

296. MACK, Darrel Dean. The Relationship of Success in the Washington State University Physical Fitness Test to Academic Success, for the 1961-62 Male Freshmen at Washington State University. M.S. in Physical Education. 57 p. (V. Dauer)

Fitness test scores (jump-and-reach, sit-ups, squat thrusts, pull-ups, and total fitness index), grade point averages, and raw linguistic, raw quantitative, and total A.C.E. scores were obtained for 200 randomly selected freshman male students. In this sample, the college entrance examination scores did not correlate highly with academic success. The physical fitness test showed a lack of relation with the A.C.E. mental ability examination and the grade point average during the first semester. None of the fitness test items was a general predictor of academic success.

297. NEAL, Freddie Ree. Recreational Skills of the Aging in the State of Washington. M.S. in Physical Education. 1962. 53 p. (G. Romney)

Questionnaires were distributed to a random sampling of Golden Age Club members in the State of Washington. The questions covered the skills desired, the skills once developed but no longer usable, the adequacy of the clubs, the reasons for developing recreational skills, and the agency responsible for teaching these skills. The preferred skills were painting and drawing, music (instrumental and vocal), ceramics, gardening, fishing, photography, bowling, woodworking, and dancing (tap, square, and ballroom). The three primary reasons for developing recreational skills were to enjoy a sense of accomplishment, because of the amount of leisure time available, and because they were healthful. The agency most responsible for teaching skills was the recreation center. Age and lack of facilities were the main reasons for skills once developed being no longer used.

298. SACKETT, James Joseph. A Comparison of the Effects of Interval and Developmental Training on the Physiological and Performance Functions of College Freshmen. M.S. in Physical Education. 1962. 73 p. (V. Dauer)

Forty-six subjects who had failed the Washington State University Physical Fitness Test were given additional tests of cardiovascular efficiency, vital capacity, and resting pulse rate. They were divided into equal groups and were given separate interval and developmental training programs for 13 weeks and were then retested on the same variables. No significant differences were found between results of the two types of training. The 21-second/6-second Endurance Test was a poor measure of endurance wins. The test-retest correlation was $-.12$.

299. SARVER, Robert Edward. A Cinematographical Analysis of the Double Leg Circle on the Side Horse. M.S. in Physical Education. 1962. 89 p. (G. Galligan)

Three gymnasts representing national, university, and high school levels of ability performed double leg circles on the side horse. Motion pictures were taken from the front, side, and overhead, using black background with a grid of lines 4 inches apart. Horizontal and vertical tape markings were placed on the front, top, and ends of the horse and tape markings were placed on the anterior, lateral, and posterior surface of the bodily segments of the gymnasts. The best gymnast (Karl Byers) was used as the criterion. All three gymnasts performed the double leg circle in 66 frames or 1.03 seconds, divided equally between the forward and backward halves. They all extended the legs the same distance laterally, raised them to approximately the same height during the flank-out and flank-in, obtained power from the sharp extension of the hips during the flank-out from the forward half of the circle, had simultaneous

contact with both hands during no more than 27 percent of the circle, and showed equal time between release and regrip during flank-out and flank-in. The more skilled performers showed less rise and fall of bodily parts, more circular pattern with the feet and more elliptical patterns with the head, kept the legs higher throughout the circle, and had greater body extension during the circle.

University of Washington, Seattle 5, Washington

(M. R. Eroer and R. K. Cutler)

300. ALLEN, Dorothy Jean. A Comparison of the Effect of Trampoline Exercise and Jump Rope Activity on the Strength of the Hip, Knee, and Ankle Muscles. M.S. in Physical Education. 1962. 65 p. (K. Fox)

Eighty-nine grade 10 girls in three basketball classes were given cable tensiometer tests for hip, knee, and ankle flexion and extension strength before random assignment to one of three groups. They were retested after five weeks, during which one group practiced the basic trampoline bounce daily for one minute, the second group jumped rope daily for one minute, and the third had general warm-up exercises before regular basketball activity. The jump rope group was significantly superior to the basketball group in hip flexion strength initially; otherwise the initial differences were insignificant. The total group showed a significant increase in hip flexion strength and a significant decrease in ankle dorsal flexion strength. Within separate groups, only the trampoline group improved significantly in hip flexion strength and the trampoline and basketball groups decreased significantly in ankle dorsal flexion strength. On the final test, the trampoline group was significantly superior to the other two in hip and knee flexion strength.

301. ANDERSON, Thomas Donald. Cardiorespiratory Changes Occurring in University Freshman Males as Measured by Treadmill Performances after Ten Weeks of Participation in Intermediate Swimming Classes. M.S. in Physical Education. 1962. 127 p. (R. K. Cutler)

All subjects participated voluntarily and were free of cardiac impairments. The initial and final treadmill tests were at 3.4mph and 14 percent grade, 5.0mph and 18 percent grade, and 6.0mph and 22 percent grade for three minutes or until exhaustion. Heart rate, blood pressure, pulse pressure, ventilation, respiratory efficiency, oxygen consumption, oxygen pulse, duration, and physical work capacity were measured. All measures showed statistically significant changes except respiratory efficiency. Duration and oxygen consumption were the most important variables determining total physical work capacity. Determining the degree of physical fitness with respect to cardiorespiratory endurance was possible.

302. BARNER, Bruce James. The Evaluation of Performance on Certain Physical Ability Tests Administered to Selected Secondary School Boys. M.S. in Physical Education. 1962. 78 p. (R. K. Cutler)

Boys in Grades 7 and 8 in Tacoma, Washington, were classified by the Neilson-Cozens Classification Index and tested in the spring and fall with the AAHPER Youth Fitness Test. Comparison showed some general improvement. Local norms were generally lower at the 100th centile, generally high in middle range, and considerably higher in the lower ranges than national norms. The use of a .25 standard deviation range facilitated computation of increased-increment scoring scales and was recommended when time is short.

303. BRUCE, Robert Glen. The Relationship of Physical Fitness Test Scores to Certain Social, Personal, and Academic Factors Among Selected Ninth Grade Males. M.S. in Physical Education. 1962. 38 p. (S. G. Reeves)

Students were divided into above average, average, and below average groups on physical fitness. No significant relationship between physical fitness and personal or social factors was found since the above average physically fit students were equal to the other groups. The above average physically fit group scored higher on social factors than the other two groups.

304. BUCK, Bernard V. A Comparison of Two Programs of Weight Training in Regard to their Effects upon the Development of Muscular Strength and Endurance. M.S. in Physical Education. 1962. 86 p. (R. K. Cutler)

Forty-nine male college students were tested before and after seven weeks of weight training on 11 callisthenic and barbell exercises requiring muscular strength and endurance. Upper arm girth measurements were taken with elbow flexed forcefully. Subjects were assigned randomly to a "Weight Group" (25) training with heavy weights and few repetitions and a "Rep Group" (24) using lighter weights and more repetitions. Both groups made substantial gains in each test. The "Weight Group" had greater average gains in seven of the 12 tests with three significant beyond the .02 level of confidence. The "Rep Group" was significantly superior in none of the tests.

305. CARR, Norma June. The Effect of Isometric Contraction and Progressive Body Conditioning Exercises on Selected Aspects of Physical Fitness and Badminton Achievement of College Women. M.S. in Physical Education. 1962. 132 p. (K. Fox)

Three beginning badminton classes at the University of Washington were given initial and final tests of physical fitness (squat thrust, toe-touch, curl-up, pull-up, and modified Illinois Agility Run) along with the Miller Wall Volley, the Scott-French Badminton Serve, and the Fox Beginning Badminton Written Examination to determine badminton achievement. During 10 instructional periods, one group had progressive body conditioning exercise for 15 minutes and the second group had isometric exercises for five minutes followed by badminton instruction. The third class had the regular instructional unit in badminton for the full period. Body conditioning exercises produced the greatest improvement in physical fitness but isometric and body conditioning exercises did not effect significantly greater improvement than badminton instruction alone. The time devoted to these programs caused little or no effect on badminton achievement.

306. FERNANDES, Kenneth. The Evolution of Cardiorespiratory Testing at the University of Washington. M.S. in Physical Education. 1962. 67 p. (R. K. Cutler)

Data from several reports completed between 1959 and 1962 were reprocessed to determine the effectiveness of the multistage treadmill test in differentiating cardiorespiratory work capacities. Integration of several cardiorespiratory measures made differences in work capacity more readily apparent. Collecting data over a wider age range and determining the optimum age of physiological responses to work were recommended.

307. GARRETSON, Rodney R. An Analysis of Selected Basketball Skills by Coaches of the Institutions of Higher Learning of the Pacific Northwest. M.S. in Physical Education. 1962. 77 p. (C. A. Mills)

A questionnaire survey concerning the teaching of offensive, defensive, and rebounding skills showed little agreement between college and university coaches as to the teaching of many of the skills of basketball. Many skills taught by some coaches are in contradiction to those taught by other coaches.

308. HAWKES, Myron Dwight. Cardiorespiratory Changes in Selected University of Washington Male Students as Determined by Treadmill Performances following Ten Weeks Wrestling Participation. M.S. in Physical Education. 1962. 69 p. (R. K. Cutler)

Seventeen subjects were tested on a treadmill at 6.5mph and 25 percent grade before and after 10 weeks of wrestling training. The changes in ventilation, respiratory efficiency, oxygen consumption, and oxygen pulse measurements were statistically significant. Changes in heart rate during rest, maximal exercise, and recovery, duration of running to exhaustion, and blood pressure recordings at rest and during the third minute of recovery proved insignificant. The significant changes were attributed to participation in wrestling. Higher heart rates during maximal performance and longer recovery periods were proportional to the stress during maximal work.

309. HAYS, Richard Ernest. The Relationship Between Physical Fitness and Academic Grades for Selected High School Boys. M.S. in Physical Education. 1962. 62 p. (R. K. Cutler)

The Washington State Physical Fitness Test was administered to all male students at Lincoln High School. The boys were divided into four groups on the basis of the McCloy Classification Index and samples were drawn by lot from each group. Fitness test scores were correlated with average academic grade in each group during the fall semester of 1961. Three of the correlations were positive and the fourth was negative but none was significant at the .05 level. The negative correlation apparently resulted from the high number of seniors who were repeaters in physical education.

310. HOHOL, Harry James. An Evaluation of Performance in a Physical-Ability Test Administered to Selected Male Students at Victoria Composite High School in Edmonton, Alberta. M.S. in Physical Education. 1962. 76 p. (R. K. Cutler)

Students were classified with the Neilson-Cosens Classification Index and tested with the AAHPER Youth Fitness Test. Means and standard deviations derived from the raw scores were used in constructing an increased-increment scale with the basic formula: $Y = KX^2 - S$. The five-sign grading plan provided an objective method of assigning grades in physical education.

311. HUCKLE, Myron S., Jr. A Comparison of the Reactions of Male Junior High School Athletes and Non-Athletes with Respect to Certain Cardio-Respiratory Factors as Determined by Performances on the Treadmill. M.S. in Physical Education. 1962. 96 p. (R. K. Cutler)

Ventilation, oxygen consumption, oxygen pulse, respiratory efficiency, heart rate recovery, work capacity, duration time, and oxygen consumption per kg. of body weight were measured during treadmill runs. The only significant difference between athletes and non-athletes was in duration time, where the athletes exhibited more endurance.

312. KLINE, Caroline C. The History of the University of Washington Play Days and Sports Days for High School Girls, 1926-1961. M.S. 1962. 153 p.

High school girls had been invited to attend the intramural championship

games in volleyball and basketball in 1924. In 1926 these were supplemented with a posture contest, luncheon, and various demonstrations to which girls from high schools within a 100-mile radius of Seattle were invited. The championship games were eliminated in 1931 and low organization games and modified sports were added. The play days were successful but were discontinued in 1934 for no apparent reason. Sports days were instituted in 1946 with five girls from each school playing together and two schools forming a team. The faculty initially administered the program with student assistance. Student responsibility gradually increased until student management under a faculty adviser was initiated in 1955. Demonstrations were always part of the program. Team sports were stressed, except in 1960 when individual sports were stressed. Recruitment speeches were also included. Interest increased until high schools could only be invited once in three years.

313. McBRIDE, Edward A. The Teaching Loads and Salaries of Selected Boys' Athletic Coaches in the Senior High Schools of the State of Washington for 1960-61. M.S. in Physical Education. 1962. 110 p. (C. Peek)

Questionnaires were sent to all senior high school coaches in the state. Data were treated according to Class AA, A, and B schools and for coaching football, basketball, baseball, and track. Coaches averaged 37.45 hrs./week in classroom teaching and 21.44 to 41.18 hrs./week in coaching during the season, depending on the sport. Average salaries varied from \$5,989 to \$4,934 for teaching, with a bonus of from \$589 to \$142 per season for coaching. Hourly rates were from \$4.19 to \$3.24 for teaching and from \$1.28 to \$.73 for coaching.

314. PARISEAU, John Joseph. The Relationship of Selected Statistical Data to Team Success in the Athletic Association of Western Universities Basketball Conference, 1959-1962. M.S. in Physical Education. 1962. 72 p. (C. A. Mills)

Successful teams tended to be high in all areas (free throws, field goals, rebounds, and fouls). The correlation of team success with percentage of fouls committed was significant at the .01 level and with rebounds recovered was significant at the .05 level of confidence. The home court advantage was about five points per game.

315. PIERCE, Raymond E. A Survey of Selected Methods of Coaching Boys' Interschool Basketball Teams in Class A High Schools in Washington State for the Year 1960-61. M.S. in Physical Education. 1962. 120 p. (J. A. Torney, Jr.)

Of 82 coaches, 65 responded to the questionnaire. All rated floor shooting the most important fundamental and favored the jump shot. In a situation in which 30 seconds remain and the score is tied, 62 coaches recommend holding the ball for a final shot; 25 do so when behind one point. Player choice of free throw method was permitted by 61. When 10 or more points behind with five minutes remaining, 57 used a full court press and an out of bounds play under their basket. When 10 points ahead with five minutes to play, 49 counseled junior high coaches to develop talent and begin stalling. Thirty-seven screened away from and 35 toward the ball with a man-to-man defense. Thirty-two seldom scouted opponents and 31 used a pre-arranged plan for defensive charges during a game.

316. POMFRET, Jack B. An Experiment to Determine the Relative Effectiveness of Improved Swim Time When Using the Freestyle Tumble Turn in Comparison with the Freestyle Throw-Away Turn. M.S. in Physical Education. 1962. 57 p. (J. A. Torney, Jr.)

Competitive swimmers at the Vancouver (B.C.) Amateur Swimming Club served as subjects. Age and competitive experience were significant

factors. Both boys and girls were more efficient with the tumble turn.

317. SANFORD, Donald P. An Analysis of State Laws Pertaining to Physical Education and Their Implementation in the Public Schools of the United States. M.S. in Physical Education. 1962. 64 p. (R. K. Cutler)

Statutes and information concerning physical education were obtained from directors of health, physical education, and recreation of each state by a questionnaire. The majority of statutes referred implementation to some division of the state educational program without specific stipulations that would aid in achieving the intent of the law. State directors showed a considerable difference in their concepts of what was recommended as an adequate program. Greater effort toward compliance with statutory requirements, adequate legal authority for implementing instruction, specific requirements concerning program content, periodic inspection and evaluation, and statutory prescriptions for preparing instructional personnel were recommended.

318. SCHWARZKOPF, Robert J. The Iowa-Brace Test as a Measuring Instrument for Predicting Gymnastic Ability. M.S. in Physical Education. 1962. 80 p. (E. Hughes)

The Iowa-Brace Test was administered to 33 students in a gymnastics skills class prior to a quarter of instruction. The Minnesota Gymnastic Skills Test and gymnastics class final performance test were given following instruction. The correlations between the Iowa-Brace Test and the gymnastics skill tests were .529 and .646.

319. SCOTT, Charles Howard, Jr. The Effect of a Pre-Season Conditioning Program on the Endurance of Selected Male Candidates for Intercollegiate Basketball Teams. M.S. in Physical Education. 1962. 97 p. (R. K. Cutler)

Thirty-two basketball candidates at Highline High School, Seattle, ran to exhaustion on the treadmill and then had 7 weeks of pre-season basketball conditioning exercises. Twenty-nine subjects improved their all-out treadmill run time on the post-conditioning test. The mean time increased from 6.63 to 11.93 minutes. The gain was significant at the .01 level of confidence. Inclusion of cardiorespiratory measurements and a follow-up after a season of basketball were recommended to determine whether endurance was maintained.

320. SERL, John W. Relationships Between Physical Performance and Growth Characteristics of Fifth and Sixth Grade Children as Characterized by the Wetzel Grid Technique. M.S. in Physical Education. 1962. 111 p. (G. S. Reeves)

The AAHPER Youth Fitness Test was administered to experimental groups of boys and girls participating in a 5-month program of prescribed activity and to control groups that continued the regular program. Data were also collected for the AAHPER Classification Index and the Wetzel Grid. Children in the planned program performed better than those in the control program and girls benefited more than boys. The AAHPER Classification Index and Wetzel Grid provided dissimilar groupings. A greater percentage of boys were Wetzel Grid growth deviants than girls. Deviant boys dominated the top level of physical performance, outperformed normally growing boys, and showed greater improvement in physical ability from the planned program. Approximately 60 percent of the deviants showed measurable growth improvement after the prescribed program and overactivity may make excellent performers appear to be Wetzel Grid deviants.

321. STAUDACHER, Raymond J. A Comparison of the Reactions of

Selected Physically Fit and Unfit Secondary School Boys with respect to Certain Cardiorespiratory Components as Determined by Performance on the Treadmill. M.S. in Physical Education. 1962. 162 p. (R. K. Cutler)

Thirty-four grade 12 boys at Bellevue High School were selected at random and divided into two groups according to their physical activity under school supervision. The subjects ran to exhaustion on a motor-driven treadmill with the grade and speed increased every 3 minutes. Blood pressure, heart rate, ventilation, and oxygen consumption were measured before, during, and after the run. Most of the 43 variables showed statistically insignificant differences. Statistically significant differences in favor of the fit group were found in ventilation, duration of run, oxygen consumption during the run, total physical work capacity, and total oxygen efficiency.

322. THORNTON, Thurlie C., Jr. The History of Intercollegiate Swimming at the University of Washington through 1961. M.S. in Physical Education. 1962. 157 p. (J. A. Torney, Jr.)

Information was obtained from publications, records, personal letters, and interviews. The University of Washington has dominated the Northwest swimming scene for 29 years, due mostly to the efforts and devotion of Coach Jack Torney, despite early handicaps of inadequate training facilities, lack of financial support, and an unpopular award system.

323. WAGNER, Dorothea Jeannine. The Effect of Puyallup's Physical Education Program for Seventh and Eighth Grade Girls on Certain Aspects of Physical Fitness. M.S. in Physical Education. 1962. 136 p. (R. Fox)

The Washington State Fitness Test Battery was administered to 116 girls at the beginning and end of the year's program of volleyball, basketball, tumbling, badminton, marching, softball, and miscellaneous activities. Experimental and control groups were established in each grade. The experimental group participated in exercises during the first eight minutes of each class period. The pre-test showed that the grade 7 experimental group was significantly inferior to the other three groups and the combined control group was slightly better than the combined experimental group. All groups showed improvement but only the experimental groups made statistically significant improvements. The grade 7 experimental group improved so much that it was significantly inferior only to the grade 8 experimental groups. The other groups showed no significant differences on the post-test. The combined experimental group finished slightly higher than the combined control group. The existing program was not effective in improving physical fitness and the 8-minute exercise program proved beneficial.

University of Wisconsin, Madison, Wisconsin

(J. G. Wolf)

324. ANDERSON, LeRoy E. Standards for Outdoor Physical Education and Athletic Facilities. M.S. in Physical Education. 1962. 83 p. (J. G. Wolf)

The purpose of this study was to formulate minimum standards for outdoor facilities to carry out a well-rounded program of physical education and interscholastic activities at the high school level. The study involved a review of the current texts on the subject and of articles on facility planning appearing in periodicals since 1955.

325. BOHN, Robert W. An Achievement Test in Archery. M.S. in Physical Education. 1962. 81 p. Microcard. (G. S. Kenyon)

The purpose of this study was to construct an archery achievement test

for college male freshmen. After seven weeks of instruction, 180 students shot 30 arrows at 30 yards. A sub-group of 62 subjects participated in a tournament one week prior to testing. External validity was assessed by correlating the two performances. Horizontal, vertical, and radial deviations were analyzed ($N=31$) to determine their merits as alternate forms of scoring. Reliability, estimated by using the Pearson r with split halves and by analysis of variance, was moderately high (.67, .72, .79 and .82). Validity coefficients were also moderately high (.72 and .79). The three deviation measures showed little reliability, little intercorrelation, and little power as predictors. To obtain a reliability of .90, the test should consist of 46 trials on each of four days.

326. **BROWNING, Patricia V.** Implications of Some Salient Factors for Promoting Sex Morality and Ideals in Early Adolescents. M.S. in Physical Education. 1962. 75 p. Microcard. (G. L. Rarick and W. H. Southworth)

This study reviewed the place of sex education in the schools today and the philosophical considerations which were involved in making a place for this subject in the school curriculum. Considerable attention was given to the nature of adolescent drives and to the present state of sex morality in this segment of our population. Supporting evidence was presented to show the need for a sound program of sex education in the schools. Concrete suggestions were given for the development of teaching situations which will have a positive effect on the attitudes of adolescents toward sex.

327. **BUTTERS, Glenn R.** A Physical Education Curriculum for the Ripon Elementary Schools. M.S. in Physical Education. 1962. 107 p. Microcard. (J. G. Wolf)

The purposes of the study were to develop a democratically approved curriculum guide, to establish a trial program and have it evaluated by the community, and to secure the cooperation of the self-contained classroom teacher to prepare and teach physical education during the regular scheduled class periods. The related literature was surveyed as a preliminary to the preparation of a tentative physical education guide. Visits were made to school systems of similar size and specialists in these systems were consulted. Opinions were obtained from university and college physical educators. In developing a preliminary draft, information was gathered through personal observations, parent questionnaires, and interviews. A functional physical education curriculum guide was developed.

328. **COGGAN, Forrest W.** For the Choreographer-Director: An Introduction to the Elements Used in Building the Dynamic Theatre Experience. M.S. in Physical Education. 1962. 157 p. Microcard. (M. Fee)

The study concerns a definition and discussion of Dynamic Theatre and contains a set of charts outlining elements relative to the physical aspects of theatre.

329. **CONANT, Coit.** The Evolution of Offensive Football in American Colleges (1806-1913). M.S. in Physical Education. 1962. 102 p. (J. G. Wolf)

The purpose of the study was to trace the offensive phase of American intercollegiate football from its origin until 1913. Historical documents were carefully surveyed, letters were sent to the American Football Coaches Association, the Football Hall of Fame, and several prominent coaches who were eye witnesses to many of the early developments of the game. Richard Lamb, historian for the National Football Hall of Fame, Davenport, Iowa, was of particular help.

330. DEHNERT, Annette Ella. A Comparison of the Effects of Two Methods of Instruction upon Free Throw Shooting Ability. M.S. in Physical Education. 1962. 40 p. (M. Liba)

The effects were investigated of a kinesiological and a conventional method of instruction upon the development of the two-hand chest shot for free throws. The elements of a successful free throw were defined for all subjects as accuracy, angle of projection, and velocity. There were two control and two kinesiological or experimental groups with two teachers, each of whom had one control and one experimental group. A 2 X 2 factorial analysis of variance was used to examine the data for all three variables. Non-significant values of F were found for all treatments and variables except for that of teacher effects on velocity performance. Standard deviations and coefficients of variation were computed for the angle of projection and velocity scores. The control groups showed a greater variation from the mean for velocity and approximately the same variation for angle of projection when compared with the experimental groups.

331. DITTMER, Joann. A Kinematic Analysis of the Development of the Running Pattern of Grade School Girls and Certain Factors Which Distinguish Good From Poor Performance at the Observed Ages. M.S. in Physical Education. 1962. 196 p. Microcard. (R. Glassow)

The mechanics and the development of the running pattern of four grade school girls (ages 6-10) were studied. The length and speed of the stride increased with age. The changes in the stride which contributed primarily were that greater flexion at the knee and hip joints resulted in increased angular velocity at take-off and increased linear velocity of the thigh moved the large mass of the thighs, trunk, head, and arms. The good performers had greater ankle flexion of the supporting limb at contact, very similar inclination of the supporting limb and the trunk at take-off, greater leg velocity of the supporting limb at take-off, greater hip flexion of the recovering limb at contact, the total body more nearly over the foot at landing, and the total body farther beyond the supporting foot at take-off.

332. ELLIS, Peggy D. The Effect of Knowledge of Results and Level of Aspiration in Measures of Strength and Motor Performances of Junior High School Girls. M.S. in Physical Education. 1962. 66 p. Microcard. (G. L. Rarick)

Forty-eight girls randomly drawn from grades 7 and 8 of an Illinois junior high school served as subjects. The performance measures used were the standing broad jump and grip strength. Within each grade level the subjects were assigned to groups. One group performed without knowledge of results and the second with knowledge of results and stated levels of aspiration. The results showed that the grip strength scores and standing broad jump scores of girls who were tested under conditions of knowledge of results and stated level of aspiration were not significantly different from each other or from the scores of similar groups tested under conditions of no knowledge of results. The importance of success or failure in influencing the direction of subsequent bids was demonstrated by the tendency for performers to raise their bids after experiencing success in meeting stated goals.

333. GOAR, Barbara A. A Study of the Effects of Participation in Physical Education on the Performance of College Women in Selected Activities. M.S. in Physical Education. 1962. 108 p. Microcard. (M. Liba)

Entering freshman women were randomly assigned to three groups: one group was exempt from physical education, a second group participated

in the regular one-year physical education requirement, and a third group was given the option of electing or not electing physical education. At the end of the spring semester tests of physical fitness, knowledge of movement, and posture were administered. An analysis of variance procedure was used to analyze the data. There were significant differences among the groups in favor of the one-year participation group in the performance of pull-ups, knowledge of movement, and posture.

334. ROCHMAN, Rose P. Dance and Aquatic Art: A Comparative Analysis of Two Movement Studies. M.S. in Physical Education. 1962. 137 p. Microcard. (M. Fee)

The purpose of the study was to determine the degree to which composition in the aquatic medium resembles that in dance and the peculiar dynamic nature of the aquatic medium in contrast to the dance medium.

335. ROWLANDS, Dave J. The Effect of Weight Training Exercises Upon the Throwing Power and Strength of College Baseball Players. M.S. in Physical Education. 1962. 65 p. Microcard. (J. G. Wolf)

The purpose of this study was to investigate the effect of a series of progressive resistance exercises applied over a five-week period prior to the beginning of baseball practice. The subjects, twelve members of the University of Wisconsin varsity baseball team, were randomly assigned to a control and an experimental group. Throwing power was computed from the velocity of the baseball thrown over a 100-foot range in a horizontal trajectory at a target. Clarke's cable tension test to measure strength/loss with the shoulder medial rotator muscle was selected as a representative of this factor. Weight training effected a significant increase in the strength and throwing power of the experimental group.

336. SABOL, Beatrice. A Study of the Relationship Among Anthropometric, Strength, and Performance Measures of College Women Bowlers. M.S. in Physical Education. 1962. 113 p. Microcard. (M. Liba)

The purpose of this study was to determine the validity of a subjective rating of the ability to handle a given weight ball as a criterion measure of bowling ability and to investigate the relationships among anthropometric, strength, and performance variables for good and poor performers. Data were collected for each subject on height, weight, arm length, grip, pull, push, three-finger bowling grip, velocity, first ball average, and game score. All groups were significantly different in all variables at the 1 or 5 percent level when an analysis of variance was computed. The Duncan Multiple Range Test was used to determine significant differences between pairs of means.

337. SAFRIT, Margaret Jo Anne. Construction of a Skill Test for Beginning Fencers. M.S. in Physical Education. 1962. 93 p. Microcard. (M. Liba)

Achievement tests of fencing skill for instructional purposes were constructed. One test was designed to measure the movement time of the lunge-recovery against a blank wall. A second test measured movement time of the lunge-recovery while aiming at a wall target. Data were gathered on college women over two days with five trials on each day. The Feldt-McKee model of the analysis of variance was used to estimate reliabilities which were .811 for Test I and .716 for Test II.

338. SIEWERT, Frank. A Comparison of Some Components of Physical Fitness and Sports Skills of Ninth Grade Boys of Rural, Urban and Parochial School Background. M.S. in Physical Education. 1962. 52 p. (G. S. Kenyon)

The effects of different elementary school experiences upon achievement in certain aspects of physical fitness and sports skill were examined. Eighty-five grade 9 boys (27 with rural background, 38 with urban background, and 20 with parochial school background) were tested for speed, power, muscular endurance, and skill in badminton, basketball, volleyball, and football. Analyses of variance were used to test for differences that could be attributed to different elementary backgrounds. Boys with rural, parochial, or urban experience did not differ in physical fitness but boys from urban and parochial schools were superior in sport skill.

339. STEIN, Thomas Adolph. Some Affective Outcomes Accompanying a Camping Experience of Physically Handicapped Adults. Ph. D. 1962. 211 p. Microcard. (H. C. Hutchins)

The study group consisted of all first and second year adult campers (N=26) who attended a two-week camp session at Camp Wawbeek during the 1960 and 1961 camp seasons. An additional group (N=11) who have had nine to eleven years of continuous camping experience at the same camp were included during the second stage of the study. Home visits were made to interview subjects on their vocational, educational, and recreation-seeking activities two to six weeks before arriving in camp. On arrival the Q-methodology was employed to measure self-acceptance and the Kuder Preference Record was administered to measure the individual's pattern of interests. The grouped results indicated that there was a high degree of similarity among all campers in terms of changes in self-acceptance, in patterns of interest over the investigation period, and in positive changes in social participation during the camping experience. However, the campers, upon their return to their home environment, returned to their original social and psychological limitations.

340. SUHM, Lawrence L. Leisure in Latin America: A Preliminary Inquiry into the Economic and Social Implications of Mass Leisure in Underdeveloped Areas. Ph. D. 1962. 179 p. Microcard. (H. C. Hutchins)

The purposes were to examine the role and importance of leisure as a cultural value in Latin America and to identify the implications for economic and social development. The experiences of the writer in Mexico and Brazil were drawn upon as were the field studies carried out by writers from a variety of disciplines in Latin America. An attempt to formulate a cross-cultural definition of leisure led to the conclusion that leisure is characterized by freedom from externally imposed obligations upon time and energy uses. This study uncovered considerable evidence that leisure rather than work is the central focus of Latin American culture and that the lack of guidance and opportunity in the use of leisure is an important deterrent to present development within the regions.

341. TORRESANI, Robert J. The Effect of Exercise on the Survival Time of Mature White Mice in Surgical Shock. M.S. in Physical Education. 1962. 69 p. Microcard. (G. S. Kenyon)

Fifty-one mice were randomly assigned to three groups. The animals in group 1 were exercised daily on a motor-driven treadmill for 18 successive days. The mice in group 2 were required to swim daily for 18 successive days. Group 3 received no special exercise. A covariance analysis of treadmill endurance times showed both experimental groups to possess higher degrees of endurance than the control group ($P < .01$) and thus established a training effect. At the end of the experimental period, each animal was subjected to surgical shock and its survival time recorded. Training utilizing treadmill running increased the tolerance for surgical shock but training in swimming did not. A moderate

relationship between running endurance and tolerance for surgical shock was found and the relationship between body weight and tolerance for surgical shock was low negative.

342. TRUE, Gregory L. The Effect of an Accelerated Physical Conditioning Program on Athletes and Nonathletes at St. Edward's High School. M.S. in Physical Education. 1962. 46 p. Microcard. (J. G. Wolf)

The AAHPER Youth Fitness Test was administered to a sample of 56 boys, including 20 athletes and 36 nonathletes, in September 1960. The regular program of physical education was administered to all classes until the first week of April 1961. The test was again administered, after which the classes were exposed to an accelerated program of conditioning (running and calisthenics). The test was repeated during the first week of May 1961. Significant increases were shown for both groups as a result of the accelerated conditioning program in the pull-ups, push-ups, and the 600-yard run walk. The nonathletic group showed significant improvement from the accelerated program in all the test events except the standing broad jump.

343. WATERLAND, Joan C. Proprioceptive Facilitation: The Influence of Radioulnar Positioning on the Involuntary Patterning Associated with Willed Movement Performed Against Progressively Increasing Resistance. Ph.D. 1962. 121 p. Microcard. (F. Hellebrandt)

Influences from wrist flexors or extensors activated volitionally were differentiated from inputs from the radioulnar joint positioned either in pronation or supination to study the contribution to proprioceptive facilitation made by joint and muscle inputs. Ergographic wrist exercise, designed to stress a subject systematically to the limits of his functional capacity, was performed by 33 normal adult subjects during 299 experiments. Four criteria of behavioral response were used: ergographic work output, the pattern of the wrist movement per se, covert electromyographic responses from arm and shoulder girdle muscles, and serial photographs of overt postural changes taken simultaneously from two views. The results indicated that the responses were patterned and the associated movements facilitated the act willed. The configurations were distinct for wrist flexion and extension when the associated complex evoked by the radioulnar joint had the same function as the agonist. The primary motor figure appeared to be a two-way stereotype involving the head and shoulder girdle musculature. The prime mover of the willed act set the rotary component of the head movement while the chief associated muscles influenced the frontal and sagittal plane positions of the head and shoulder girdle regardless of how the exercise was performed.

Woman's College, University of North Carolina, Greensboro,

North Carolina

(R. McGee)

344. BONALI, Gloria Ann. Time in Space... (Labanotated Choreography). M.F.A. in Dance. 1962. 49 p. (V. Moomaw)

A dance for three entitled "Time in Space..." was based on the statement: "Time is space as measured by the sound of footsteps through the pathways of eternity" (Joan Livesay Moore). The dance showed three general classifications of personality to illustrate some of the relationships and experiences in various situations. The dominant was defined with large, sharp, straight lines, the introverted with small, quick, inward movements, and the easy-going personality with curved lines, soft and flowing movements. As the dance progressed, the necessity for interaction caused the characteristic movements to undergo alteration.

345. BROWN, Rosalie. The Use of Visual Aids and Their Effect on the Learning of Beginning Archery Skills by College Women. M. Ed. 1962. 72 p. (D. Davis)
- The effectiveness of using audio-visual aids in addition to oral instruction and practice was compared with using only oral instruction and practice. Subjects were 44 students. The selected audio-visual aids included the sound filmstrip "Beginning Archery" (The Athletic Institute) and three Polaroid pictures of each subject. One Polaroid picture was taken of the control subjects for comparison with the final picture of the experimental subjects. Using audio-visual aids was no more effective than using only oral instruction. However, the audio-visual aids seemed partly responsible for the significant superiority of the experimental group in the initial trial at 30 yards and may be beneficial in the early stages of learning.
346. BUTLER, Shela. A Proposed Eighth Grade Physical Education Program for Walter George High School, Atlanta, Georgia. M. Ed. 1962. 89 p. (M. Leonard)
- The proposed program included organization and administration of the daily program, extra-class activities, student leaders, the elective physical education program, and activity units. Units were developed for soccer, volleyball, badminton, table tennis, shuffleboard, basketball, square dance, social dance, tumbling, and softball. These units included skill and knowledge content, weekly teaching progressions, teaching suggestions, lead-up and modified game suggestions, visual aid suggestions with contents noted, and suggestions for additional reading.
347. CLARY, Betty Jo. Proposal for Girls' Sportsdays for Secondary Schools in Mecklenburg County. M. Ed. 1962. 80 p. (N. Leonard)
348. DAVIS, Edith Nash. Poco Picasso (Labanotated Choreography). M. F. A. in Dance. 1962. 26 p. (V. Moomaw)
- "Poco Picasso" is a dance which projects feelings and values rather than outlining a story or describing specific events, and is concerned primarily with design, texture, flowing movement sequences, and linear patterns. The motivation for the dance was a desire to express a personal aesthetic response to Picasso's paintings through the medium of movement. The specific purpose of the choreography was to capture those qualities that characterized three phases of Picasso's work: the "Primitive," "Blue Period," and the "Abstract-Expressionist."
349. DOUDLAH, Anna May. The Relationship Between the Self-Concept, the Body-Image, and the Movement-Concept of College Women with Low and Average Motor Ability. M. S. in Physical Education. 1962. 62 p. (C. Ulrich)
- Q-sorts for self-concept, body-image, and movement-concept were completed by 40 college women. Correlation coefficients between the self-sort and ideal-sort on the three variables for each subject were obtained from a nomograph and treated as scores. The significant correlation of self-concept with body-image and body-image with movement-concept apparently indicated that the subjects perceived themselves as a self with a body that moves. The significant relationship between motor ability and movement-concept apparently indicated that actual motor performance was influenced by how the subjects perceived themselves as moving beings. Perception as a moving being was more characteristic of the average motor ability group than the low motor ability group. The subjects saw themselves more favorably in terms of self-concept than in terms of body-image or movement-concept. The average motor ability group perceived themselves as coming closest to their ideal self in movement.

350. DUDLEY, Barbara. Trio (Labanotated Choreography). M. F. A. in Dance. 1962. 36 p. (V. Moomaw)

"Trio" is a dance without plot or story developed from the qualities of three hues of red and the associations they stimulate. Pink developed into a soft, delicate quality of movement; pure red into a sharp, strong quality; and maroon into a solid, strong quality. The qualities intermingled throughout the dance so that distinguishing each was at times difficult, but each became dominant in turn.

351. EASON, Julia Ellen. The Relationship of Height and Weight to the Performance of College Women in Selected Basketball Skill Tests. M. Ed. 1962. 79 p. (G. Hennis)

A 3-item basketball test (push pass, half-minute shoot, and bounce and shoot) was administered to 100 college women who participated in the intramural basketball tournament. Four groups of 15 each were selected to represent the extremes in height and weight. Height had a statistically significant relationship with weight and the combined test and with the bounce and shoot test when weight was held constant. Comparison of means between the heavy and light group, however, showed that the only significant difference was between height and weight.

352. ELLER, Hazel Jeanne. Movement and Three-Dimensional Art: An Exploration. M. S. in Physical Education. 1962. 54 p. (C. Ulrich)

Movement is man's most immediate medium of expression and communication, and all other activities are influenced by his movement patterns. The artist also speaks of life's experiences—only the medium is different. The artist interprets life through a permanent and specialized medium but all expressive and communicative media speak of the way life feels to man. On this premise, similarities of purpose were extracted from all expressive media and personal knowledge and experience concerning running, spinning, and rolling were interpreted in three-dimensional abstract forms which were placed on permanent display in the Coleman Room of the Coleman Gymnasium, Greensboro, North Carolina.

353. FLINCHUM, Betty Mae. A Pilot Study in the Measurement of Motor Ability of the Preschool Child. M. Ed. 1962. 78 p. (E. Griffin)

The motor ability of 24 three and four year olds was tested in the basic skills of running, jumping, and throwing. The children responded readily to the directions and the results indicated that the tests were geared correctly to the ability level. The steps, ball throw, horizontal jump, vertical jump, and ladder climb had sufficiently high reliability and validity coefficients for multiple correlation which disclosed five batteries with coefficients above .80, namely: steps; dash and steps; vertical jump and steps; throw and vertical jump; and throw, vertical jump, and climb.

354. GUSTAFSON, Sandra E. We Three Are One (Labanotated Choreography). M. F. A. in Dance. 1962. 33 p. (V. Moomaw)

The dance was choreographed to present a personal philosophy on creativity. Creative attempts are often more deluding to the creator than to the audience. The choreographer pours intensive and vital thoughts into structuring a dance but the spirit of the dance and its dancers is the dance and is primarily responsible for its communication. The dancers had to move with the pride and dignity of humanity and with the idea that a magnitude of feeling was surging from the inside of the mind and body to the outside to produce a fluid, flowing quality. The dance involved a large amount of torso movement since the first characteristic movement

patterns are noticeable in the torso in all deeply felt emotion.

355. GLOVER, Elizabeth Gay. Physical Fitness Test Items for Boys and Girls in the First, Second, and Third Grades. M.S. in Physical Education. 1962. 125 p. (R. McGee)

Motor performance items which could be adapted to physical fitness measures of primary grade children were investigated. Nine judges evaluated 18 test items twice, and chose seven fitness items for administration to boys and girls in the primary grades. The seven items were treated statistically to ascertain reliabilities, means and standard deviations, intercorrelations, and tentative percentile norms. The validity of the test items was based on the literature reviewed and the empirical judgements of the nine judges. The standing broad jump, the shuttle race, the sral crawl test, and the sit-ups appeared to be the best test items.

356. KING, Louise Chloe. An Investigation of the Effects of Two Training Programs on Selected Cardio-Respiratory Variables of College Women. M.S. in Physical Education, 1962. 120 p. Microcard. (R. McGee)

The effects on selected cardio-respiratory variables on college women of riding bicycles and running were determined. The physiological reactions measured were pulse rate, respiration rate, respiration amplitude, minute volume of respiration, and oxygen consumption. The respiratory variables were recorded simultaneously by a respirometer. The cardiovascular reaction was measured by counting the pulse rate. All variables improved during the four-week training period regardless of the training program prescribed. Both training programs were of sufficient duration and intensity to effect changes in post-exercise scores.

357. McDONALD, Margaret Anne. A Study of Ancient Greek Physical Education with Emphasis Upon the Dance, the Women, and the Professional. M.Ed. 1962. 95 p. (R. McGee)

The dance, the women, and the professional were represented as each existed under conditions of that time. Dance played a very important part in the physical education programs of the Greeks. It was a synaptic activity of their education and their daily life. As the Greeks lived, they danced. Dancing was conducive both to the practical aims of their education and to aesthetic development. Women played a definite part in the history of Greece. Until philosophers began to realize the innate potential of women or until women like Sappho began to assert themselves, the subjugation of women was unquestioned. Even though women were given an inferior role, their influence was important. The eventual professionalism which developed in Greece was particularly relevant to present-day athletics. When the emphasis upon specialization became prevalent, the real values inherent in the Greek physical education programs were lost. The study of Greek dance, women, and professionalism revealed many lessons which are applicable to modern times.

358. MIKELL, Judy Aileen. Dilemma (Labanotated Choreography). M.F.A. in Dance. 1962. 37 p. (V. Moomaw)

"Dilemma" concerned a woman who was trying to make a choice between "good" and "evil" as the way to meet the problems of life. "Good" and "evil" were danced by separate groups, each trying to persuade the woman to affiliate with them. She was tempted by both but found that "evil" had some characteristics of good and "good" had some characteristics of evil. Having to make a choice after finding that neither was wholly what it appeared to be produced her dilemma.

359. RADER, Ann Gertrude. The Development of a Handbook To Be Used in the Teaching of Field Hockey Skills to Fourth, Fifth, and Sixth Grade Students. M. Ed. 1962. 79 p. (E. Griffin)

A status survey of 17 schools brought out these points: a smaller stick was used in most of the schools and was provided by the school; a regulation hockey ball was used; the playing field was modified; intramural hockey was played in seven of the schools at all grade levels, and some of the unique benefits of starting the game at this age level were considered to be a willingness to practice and a desire to learn, an enthusiasm for basic skills, a further development of hand-eye coordination, improved stickwork, and a carry-over value for high school play. The handbook contained suggestions for the selection of proper equipment and for safety. The section on skills and tactics was arranged in a progression according to difficulty with practice drills and special suggestions for organization and instruction. In the games section, the relay games, stickwork games, and lead-up games were grouped under each specific skill and arranged in progression according to difficulty.

360. RAMSEY, Lorene Maria. A Comparison of the Personality Variables and Attitudes Toward Physical Education Between Highly Skilled Girls Participating in Varsity Programs and in Girls' Athletic Association Programs. M. Ed. 1962. 107 p. (G. Hennis)

High school girls participating in varsity basketball programs in Iowa and Texas and in Girls' Athletic Association programs in Illinois took the Edwards Personal Preference Schedule and the Mercer Physical Education Attitude Inventory. Results from the Preference Schedule indicated that girls in the intramural (GAA) program had a greater tendency toward dominance and exhibition. Attitude Inventory results showed that all highly skilled girls had a favorable total attitude toward physical education, apparently gaining great satisfaction from activities in which they excelled. Also, girls exposed to an intense varsity program scored significantly lower on moral-spiritual, general, and total attitude toward physical education than girls in a less intense varsity or intramural program.

361. THORNBERG, Mary Lou. The Effects of Learning on Selected Physiological Reactions. M. S. in Physical Education. 1962. 107 p. (C. Ulrich)

Twenty-seven freshmen and sophomores were randomly selected from those with T-scores between 45 and 55 on the Scott Motor Ability Test and their homeostatic levels for respiration rate and amplitude, galvanic skin response, pulse rate, and systolic blood pressure were established. Tests of balance, hand-eye coordination, and accuracy unfamiliar to the students were administered and the subjects were re-tested immediately for changes in physiological response. Five group practice sessions followed in two weeks. Physiological reactions were tested before and after the final test. All individual performance scores were combined in an average performance score. Significant changes occurred in the physiological reactions after both the initial and final tests. The upset might have been either physical or psychic and the direction was not always constant. Although the performance scores improved significantly, no decrease in the physiological reactions was apparent after the final performance.

362. WILSON, Marcia Ruth. A Relationship Between General Motor Ability and Objective Measures of Achievement in Swimming at the Intermediate Level for College Women. M. S. in Physical Education. 1962. 74 p. (R. McGee)

The Scott General Motor Ability Test was administered to 70 college

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women who also took a 6-item objective test and were rated subjectively on nine intermediate swimming skills at the beginning and end of the semester. The subjective ratings were used as the criterion for the objective test items. The objective test had acceptable reliability and validity for use at the intermediate level but general motor ability as measured showed no relationship to achievement in intermediate swimming.

PERIODICALS REVIEWED

- Abstracts of World Medicine
- *Acta Chirurgica Scandinavica
- *Acta Medica Scandinavica
- *Acta Orthopaedica Scandinavica
- *Acta Paediatrica
- *Acta Physiologica Scandinavica
- *Aerospace Medicine
- American Association of University Professors Bulletin
- American Heart Journal
- *American Journal of Anatomy
- *American Journal of Cardiology
- *American Journal of Clinical Nutrition
- American Journal of Human Genetics
- American Journal of Hygiene
- *American Journal of the Medical Sciences
- *American Journal of Medicine
- American Journal of Orthopsychiatry
- *American Journal of Physical Anthropology
- *American Journal of Psychiatry
- *American Journal of Physical Medicine
- American Journal of Physiology
- *American Journal of Psychology
- American Journal of Public Health and the Nation's Health
- *American Journal of Surgery
- *American Review of Respiratory Diseases
- *Anatomical Record
- *Annales Medicinae Internae Fennicae
- Annals of Applied Biology
- Annals of Clinical Medicine
- Annals of Human Genetics
- *Annals of Internal Medicine
- Annals of Physical Medicine
- *Annual Review of Medicine
- *Annual Review of Physiology
- *Arbeitsphysiologie
- *Archives of Environmental Health
- *Archives of Internal Medicine
- *Archives of Physical Medicine and Rehabilitation
- Archives of Surgery
- Athletic Journal
- *Australian Journal of Experimental Biology and Medical Science
- *Biophysics
- *British Heart Journal
- *British Journal of Industrial Medicine
- *British Journal of Nutrition
- *British Journal of Preventive and Social Medicine
- *British Journal of Psychology
- British Medical Bulletin
- *British Medical Journal
- *Bulletin of the Johns Hopkins Hospital
- *Bulletin of the Los Angeles Neurological Society
- *California Clinician
- California Journal of Educational Research
- *California Medicine
- Camping Magazine
- *Canadian Journal of Psychology
- *Cancer Research
- *Child Development
- Child Development Abstracts and Bibliography
- *Circulation
- *Circulation Research
- *Clinical Science
- *Communications from the Testing and Observation Institute of the Danish National Association for Infantile Paralysis
- *Danish Medical Bulletin
- *Diabetes
- Educational Abstracts
- *Educational and Psychological Measurements
- Educational Research Bulletin
- *Ergonomics
- Experimental Cell Research
- *Federal Aviation Agency Report
- *Federation Proceedings
- *Genetic Psychology Monographs
- *Geriatrics
- *GP
- Growth
- *Human Biology
- *Indian Journal of Medical Research
- Industrial Medicine and Surgery
- *Internationale Zeitschrift für Angewandte Physiologie

Periodicals marked with an asterisk have research reports listed in the 1962 issue of Completed Research.

- *Journal of Abnormal and Social Psychology
- *Journal of the American Dietetic Association
- *Journal of the American Medical Association
- *Journal of the American Physical Therapy Association
- *Journal of Anatomy
- *Journal of Applied Physiology
- *Journal of Applied Psychology
- *Journal of the Association for Physical and Mental Rehabilitation
- *Journal of Bone and Joint Surgery
- *Journal of Chronic Diseases
- *Journal of Clinical Investigation
- *Journal of Clinical Psychology
- *Journal of Comparative and Physiological Psychology
- *Journal of Educational Psychology
- Journal of Educational Research
- *Journal of Educational Sociology
- Journal of Experimental Biology
- Journal of Experimental Education
- *Journal of Experimental Medicine
- *Journal of Experimental Psychology
- *Journal of General Physiology
- Journal of General Psychology
- *Journal of Genetic Psychology
- *Journal of Gerontology
- Journal of Health and Human Behavior
- Journal of Heredity
- Journal of Higher Education
- Journal of Home Economics
- *Journal of Laboratory and Clinical Medicine
- *Journal of the Maine Medical Association
- Journal of Mental Science
- *Journal of Nervous and Mental Disease
- Journal of Neurophysiology
- *Journal of Nutrition
- *Journal of Occupational Medicine
- *Journal of Pediatrics
- Journal of Personality
- Journal of Physical Education
- Journal of Physiology
- Journal of Psychology
- *Journal of School Health
- Journal of Social Psychology
- *Journal of Sports Medicine and Physical Fitness
- Journal of Teacher Education
- *Journal of Tropical Medicine
- *Lancet
- *Medical Journal of Australia
- *Medical Times
- Mental Hygiene
- *Military Surgeon
- Monographs of the Society for Research in Child Development
- National Conference of Social Work
- National Society for the Study of Medical Research
- Nation's Schools
- *New England Journal of Medicine
- *New York State Journal of Medicine
- Nutrition Abstracts and Reviews
- Nutrition Reviews
- Parks and Recreation
- Peabody Journal of Education
- *Pediatrics
- *Perceptual Motor Skills
- Phi Delta Kappan
- *Philosophical Studies
- *Physical Educator
- Physical Therapy Review
- Physiological Reviews
- *Polish Medical Science and History Bulletin
- Postgraduate Medicine
- *Practitioner
- *Proceedings of the Nutrition Society
- *Proceedings of the Society for Experimental Biology and Medicine
- *Psychological Bulletin
- *Psychological Monographs
- General and Applied
- *Psychological Reviews
- Psychoanalysis and Psychoanalytic Review
- Psychosomatic Medicine
- *Public Health Reports
- Quarterly Journal of Experimental Physiology and Cognate Medical Sciences
- *Quarterly Journal of Experimental Psychology
- Quarterly Review of Biology
- Recreation
- Rehabilitation Record
- Research Bulletin of the NEA
- *Research Quarterly, AAHPER
- *Revue Canadienne de Biologie
- Safety Education
- *Scandinavian Journal of Clinical and Laboratory Investigation
- Scholastic Coach
- *School of Aerospace Medicine
- School Review
- *Science

- *Sechenov Physiological Journal
of the USSR
- Social Science Research Council
- Sociological Abstracts
- *Sociological Review
- *Sociology and Social Research
- Sociometry
- *South African Journal of
Medical Science
- *Southern Medical Journal
- *Sportarztliche Praxis
- *Surgery
- Swimming Pool Age
- *Thorax
- Today's Health
- *Western Journal of Surgery,
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